

**City and County of San Francisco
Department of City Planning**



HYDE STREET FISHING HARBOR/PIER 45 Sheds A & C
Draft Environmental Impact Report

File No. 93.574E

SCH #94073023

Draft EIR Publication Date: April 26, 1996
Draft EIR Public Comment Period: June 10, 1996
Draft EIR Public Hearing Date: June 6, 1996

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ADMINISTRATION
FAX: 558-6426

CURRENT PLANNING/ZONING
FAX: 558-6409

LONG RANGE PLANNING
FAX: 558-6426

DATE: April 26, 1996

TO: Distribution List for the Hyde Street Fishing Harbor/Pier 45 Sheds A and C Draft EIR

FROM: Barbara W. Sahm, Environmental Review Officer

SUBJECT: Request for the Final Environmental Impact Report for the Hyde Street Fishing Harbor/Pier 45 Sheds A and C Draft EIR (Case Number 93.574E)

This is the Draft of the Environmental Impact Report (EIR) for the Hyde Street Fishing Harbor/Pier 45 Sheds A and C Proposed Project. A public hearing will be held on the adequacy and accuracy of this document. After the public hearing, our office will prepare and publish a document titled "Summary of Comments and Responses" which will contain a summary of all relevant comments on this Draft EIR and our responses to those comments; it may also specify changes to this Draft EIR. Public agencies and members of the public who testify at the hearing on the Draft EIR will automatically receive a copy of the Comments and Responses document, along with notice of the date reserved for certification; others may receive such copies and notice on request or by visiting our office. This Draft EIR together with the Summary of Comments and Responses document will be considered by the City Planning Commission in an advertised public meeting and certified as a Final EIR if deemed adequate.

After certification, we will modify the Draft EIR as specified by the Comments and Responses document and print both documents in a single publication called the Final Environmental Impact Report. The Final EIR will add no new information to the combination of the two documents except to reproduce the certification resolution. It will simply provide the information in one rather than two documents. Therefore, if you receive a copy of the Comments and Responses document in addition to this copy of the Draft EIR, you will technically have a copy of the Final EIR.

We are aware that many people who receive the Draft EIR and Summary of Comments and Responses have no interest in receiving virtually the same information after the EIR has been certified. To avoid expending money and paper needlessly, we would like to send copies of the Final EIR to private individuals only if they request them.

If you would like a copy of the Final EIR, therefore, please fill out and mail the postcard provided inside the back cover to the Office of Environmental Review within two weeks after certification of the EIR. Any private party not requesting a Final EIR by that time will not be mailed a copy. Public agencies on the distribution list will automatically receive a copy of the Final EIR.

Thank you for your interest in this project.

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Attn: Sharon A. Rogers, EIR Coordinator
93.574E Hyde Street

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REQUEST FOR FINAL ENVIRONMENTAL IMPACT REPORT

TO: Department of City Planning
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**Fisherman's Wharf
Hyde Street Fishing Harbor & Pier 45, Sheds A and C
Draft Environmental Impact Report**

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I. SUMMARY

INTRODUCTION

The following Draft Environmental Impact Report describes the potential environmental impacts of a proposed project off of the Hyde Street Pier, in the Main Harbor, and on Pier 45 / Sheds A and C, in the Fisherman's Wharf Area of San Francisco. The project, proposed by the Port of San Francisco, would add 60 leasable berths/tie-up spaces off of the Hyde Street Pier for commercial fishing boats, and a Fisheries Center with associated meeting space, retail and parking in Sheds A and C. This report addresses those issues that the Planning Department of the City and County of San Francisco, in an Initial Study, determined to have the potential to cause significant impacts on the environment.

PROJECT BACKGROUND (pp 1 to 13)

In 1988, the Port of San Francisco proposed a project in the Fisherman's Wharf harbor that included major renovations to the fish processing industries located in Sheds B and D on Pier 45, and the addition of 88 new floating berths off of the Hyde Street Pier. Environmental review was undertaken and a preliminary negative declaration published. Extensive public controversy caused the Port to withdraw consideration of the project. In October of 1989, the Loma Prieta earthquake did substantial damage to a portion of the Hyde Street Pier and all of the Sheds on Pier 45. Sheds A, B and C were closed and the tenants who were fish processors moved to Shed D, Fish Alley and other Port facilities. A CEQA Statutory Emergency Exemption for repair of the earthquake damage and restoration of the fish processing facilities was issued by the Planning Department's Office of Environmental Review in November of 1989. The Port's plans for restoring the sheds for fish processing uses were examined, and it was found that the amount of space allocated to fish processing and related circulation in Sheds B and D, after completion of earthquake repairs, would be essentially the same as the amount of space that existed for those uses prior to the earthquake; thus, an emergency exemption was applicable.

The restoration of the sheds was primarily funded by the Federal Emergency Management Agency (FEMA); work began in 1992 and was completed in the summer of 1995. As of

been seismically reinforced and the damaged utilities replaced and brought into conformity with current codes. The sewer and water lines, drains, traps, and sinks that existed in Sheds B and D prior to the earthquake were antiquated and inadequate for industrial use. The restored fish processing facilities were designed and built to meet the current rigorous health, safety and performance standards for the handling and processing of fresh fish. The Port's intention was, and continues to be, to accommodate the fish handling industry in the most modern, sanitary, and attractive facilities possible.

The existing 116 leased spaces for commercial fishing boats in the harbor is located at Wharves J 3, 4, 5, and J 7, 8, 9, 10 which are on the inner and outer lagoons on the landside of the main basin. Please see Figure 1S that shows these areas. The existing berths available for lease by the Port in the lagoons at Fisherman's Wharf are 100 percent occupied, and there is some demand for transient berthing and for boats 40-50 feet in length which is currently unmet.

A breakwater, which shelters the entire harbor from Pier 45 to Hyde Street, was constructed with U.S. Government funding in the early '80's. The Hyde Street Pier was originally constructed in 1922 as a ferry pier. A major portion of the Hyde Street Pier is leased by the Port to the National Park Service (NPS) for the National Maritime Park. Pier 45 is located across the harbor (in an easterly direction) from the Hyde Street Pier.

PROJECT DESCRIPTION (pp 1 to 25)

The Port has three overall objectives for this project: to construct a harbor that can accommodate the unmet demand for berthing of the existing commercial fishing industry vessels and that would improve the convenience, safety and efficiency of harbor operations; to provide needed harbor service facilities for the boat operators and their crews; and to provide for the public and visitors uses in Sheds A and C on Pier 45 that are complementary to the fishing industry operations and to the Fisherman's Wharf area and are accessible to the public and to visitors.

Hyde Street Fishing Harbor

The proposed Hyde Street Fishing Harbor would include reconfiguration of the east side of Hyde Street Pier (located to the west of Pier 45, across the main basin) to allow for the construction of

Figure S1 Existing Harbor Area



MOFFATT & NICHOL AGS, INC. KWAN HENMI

facilities for a total of 60 boats (see Figure 6); there would be 40 permanent floating berths and 20 side tie/stern tie spaces. This would increase the number of leasable spaces in the harbor area to a total of 176 spaces.

Some surface area Bay coverage, and Bay fill, as well as dredging and pile driving, would be necessary to create the floating berths and supporting facilities. Reconstruction of the east side of Hyde Street Pier would include the removal and relocation of the existing rock fill and replacement of the timber pier structure with concrete piles. Approximately 22,723 square feet of additional coverage/fill (including 270 cubic yards of supporting piles) in the Bay and about 9,475 square feet of additional coverage / 715 cubic yards of fill in the Shoreline Band would be required to construct the pier extension and berthing spaces. Of that total, the new berthing system would consist of permanent floating berths with separating floats representing about 17,700 square feet of Bay coverage, supported by a concrete guide pile berthing system having 53 new 24-inch rectangular concrete piles; this would represent 270 cubic yards of fill in the Bay.

The new vessel facilities would include the following features: berths would be enclosed on two sides by floats with encased foam pontoons that would ride slightly below the surface of the water; no berthing would be provided on the west side of the float closest to the Hyde Street Pier and Aquatic Park; the westernmost float would be fitted with a flexible "skirt" which would eliminate gaps between floats and provide a measure of water quality protection. (See Figure 7); a single security gate would be located at the shore end of the pier; there would be lighting, electrical power, water and fire protection systems, and deck boxes for each berth. Runoff would be collected in gutters located along the pier edge or in a central depression, to direct storm water to an oil-water separator before disposal to the Bay. A single security gate at the end of the pier would limit access to the pier and floating dock to permitted boat operators and harbor personnel.

Harbor Service Facilities

The additional new harbor service facilities designed to serve both the new and existing berths would be located partially on new fill, described above under Hyde Street Pier reconstruction. Facilities would include: a work dock; 3000 square feet of public access provided at the foot of the new pier; and a restroom of 200 square feet near the fueling area for use by fishermen. The

existing fuel station building of 420 square feet, now located on a pile-supported pier, would be retained and the existing fuel dock area of 1,450 square feet would be provided with lighting and oil spill containment equipment. A new replacement fuel delivery pipeline (140 feet long) from the location of the new tanks (not a part of this project) south of the seawall to the fuel dock would include automatic shut off features, a leak detection system, remote operated shutoff switch, and pressure sensitive valves. A vessel sewage pump-out station would be installed adjacent to the fuel dock area with a 20 gallon per minute (gpm) pump-out capability directly connected to the City's sanitary sewer system. The dock area would have a central depression to direct storm water to the oil-water separator prior to disposal to the Bay. A 40 square foot oily waste disposal facility would be provided in a clearly marked location in the working area and at an existing facility along Fish Alley.

Parking for 21 vehicles to be used by the fisherman, is proposed over existing land and/or over relocated fill. Additionally, 24 parking spaces would be provided in the location of the Bell Smoked Fish building at the backside of the building at 490 Jefferson. About 4,300 square feet of building structure would be demolished to make room for this parking.

Pier 45 / New Uses in Sheds A and C

The Port is proposing to develop uses for Sheds A and C on Pier 45 which would be complementary to the fishing industry. These two sheds contain approximately 140,000 square feet of ground floor area and space for a mezzanine of about 50,000 square feet. Sheds A and C, on the east side of Pier 45, are adjacent to the fish processors' located in Sheds B and D (the fish processors would not be relocated as a result of this proposal). The three alternative uses under consideration are: a Fisheries Center, a Conference Center, or an Education Center. The Conference and Education Center Alternatives will be discussed at the end of this section.

The Port's preferred project for Pier 45 / Sheds A and C is the Fisheries Center. The purpose of the Fisheries Center would be to educate the public and allow observation of a working commercial fishing harbor and pier. There would be: 25,000 square feet of Visitor Center space in Shed C dedicated to displays and exhibits to promote public education of the fisheries and seafood industries and the marine environment; a 1,200 to 3,000 square foot interactive theater and 2,000 to 5,000 square feet of related retail space (gift shop and book store); and a 2,000 to 4,000 square foot cafe or food service area. The Fisheries Center conference and meeting

facilities would have about 20,000 square feet of Shed C improved for use as a meeting place for conferences and special events. Retail space of up to 40,000 square feet would also be included. Maritime related office space of 10,000 square feet could be located in mezzanine space in Shed C. Public access would include 20,000 square feet of Shed A and 25,000 square feet of Shed C, on the pier apron; this would provide a promenade along the eastern water's edge of Pier 45. There would be 200 parking spaces located inside Sheds A and C. The existing 68 spaces on the forepier would remain. Two truck loading docks would be provided in the "valley", but no parking for Sheds A or C would be permitted in the "valley" to minimize conflicts with commercial fish trucks.

Approvals Required (pp 26 to pp 32)

Approvals would be required from the City Planning Commission, the Port Commission, the Bay Conservation and Development Commission, and the US Army Corps of Engineers. In addition, review of the project by the State Lands Commission, the Regional Water Quality Control Board, California Department of Boating and Waterways, and the Coast Guard, would also occur.

The Project would require an amendment to the Northeastern Waterfront Area Plan of the Master Plan of the City and County of San Francisco which designates hotel, commercial office and residential uses on Pier 45. It would also require Conditional Use Authorization from the Planning Commission for non-maritime uses (meeting facilities, retail, and food service) in the Northern Waterfront Special Use District 1.

ENVIRONMENTAL EFFECTS

Land Use (pp 35 to pp 38), Zoning (pp 38), and Bay Fill (p 17)

Land uses within the project site, and fishing-related uses in particular, would not be substantially altered by the proposed project. The potential to lease berthing and dock space to fishing vessels would allow more control of fishing vessels in the harbor and would minimize the number of rafted and double or triple-tied vessels. The number of commercial fishing vessels in the harbor is not anticipated to grow substantially based on the declining volume of fish landings since 1988. The truck-based fish-trading activity that occurs on Jefferson Street is not an operation controlled by the Port and would not be expected to change due to the project.

Proposed uses on Pier 45 would include activities new to Sheds A and C, but would be designed to be compatible with fishing- and/or visitor-related activities in the vicinity. These uses are not expected to disrupt or divide the physical arrangement of an established community, nor substantially change the character of the vicinity.

There would be approximately 22,723 square feet of additional Bay fill in the form of Bay coverage from the berthing system, and 715 cubic yards of solid fill for the shoreline/pier improvements. There would be 2,180 square yards of fill removed and 48,000 square feet of improved public access as a part of the project.

Water Quality (pp 111 - 123)

Ongoing activities which have been identified as potentially causing water quality impacts to the project area and the adjacent Aquatic Park include the following: fish handling and processing activities; potential fuel spillage and leakage (including bilge water) from the vessels, fueling activities, equipment failure, and maintenance activities; the presence of commercial fishing and other vessels, either permanent or transient; pier and boat deck runoff and washdown discharged directly to the Bay; litter and trash generated by harbor users and visitors; effects of dredging, filling and other construction activities on Bay water quality. All of these activities have been ongoing in the project vicinity for decades.

Each of these activities was studied, and is discussed in the DEIR in terms of the likelihood of their occurring at a more intense level as a result of the proposed project, and their potential to affect Bay water quality, based on existing and historical water quality conditions. Results of the studies include: there is no indication of a relationship between the data on levels of coliform in the harbor waters and fish landing data or fish processing activities; other sources of coliform bacteria, such as wet weather sewer overflows, are known to be present in the project area; present fish processing and waste handling practices indicate that no discharges large enough to cause measurable water quality problems occur to the Bay from those activities. There appears to be no direct relationship between fish processing activities and bacteriological water quality; other sources, such as wet weather sewer overflows to the Bay, appear to be more directly associated with coliform levels.

I. SUMMARY

Any increased level of fish processing activity that might be associated with improved harbor facilities due to the proposed project would be subject to similar fish handling and waste disposal regulations and practices as the existing activities in Sheds B and D. Consequently, similar to existing practices, any incremental increase in level of fish processing activity would not be expected to affect Bay water quality.

The proposed project would not result in any increased potential for fuel or oil spills from fishing vessels over that which currently exists. It is designed to provide improved facilities to accommodate the existing number of vessels using the harbor by providing dock space for boats now rafted or double-tied in the harbor, and the Port will continue its existing programs and practices to minimize fuel spills to the Bay and harbor. The project would include improvements at the existing fuel dock which would reduce the potential for fuel spills in the Harbor associated with the fuel dock.

The proposed project is not anticipated to generate a noticeable increase in the number of vessels using the harbor, and therefore, no increase would occur in potential for waste discharge from boats than currently exists. The new sewage handling facilities that would be included in the project would provide a convenience for the commercial fishermen and reduce the likelihood of illegal discharges to the Bay, which would indirectly protect water quality in the Bay.

Although the proposed project would not result in any increased potential for waste discharge from boats, there are additional procedures the Port could implement to minimize the likelihood of illegal discharge of wastes to harbor waters and to assure that waste disposal facilities are properly used. This could include increasing the coverage (24 hours/day and weekends) of wharfinger supervision and oversight of commercial boating and berthing activities at the proposed harbor. Water quality effects associated with discharge of stormwater to the Bay would not be expected to change substantially from the existing conditions.

Implementation of the proposed project would not be expected to affect the amount of litter or trash carried to the Bay. The Port could implement measures to improve the existing water quality conditions, such as increasing the frequency of the Port's work skiff operation and

coordinating with restaurant owners and nearby commercial operators to improve housekeeping practices.

Construction activities in the Bay, such as dredging, placement of fill and rock materials, removal of existing piles, and installation of concrete piles would result in temporary, localized increases in turbidity and suspended solids, and decreases in dissolved oxygen. These effects would be short term and would be minimized by compliance with conditions that address the preservation of water quality that the Port must follow in all dredging episodes and which are included in construction specifications. Construction work in the Bay is permitted by the Army Corps of Engineers and the Bay Conservation and Development Commission both of which establish these conditions. Similar to dredging activities, the Port would, as it is required to do by the California Department of Fish and Game, schedule in-Bay construction activities to avoid conflicts with the herring spawning season. In addition, as part of a good neighbor policy, the Port attempts to avoid conflicts with the scheduled activities of the swimming clubs.

Marine Biology (pp 124 - 125)

The reconstruction of the Hyde Street Pier would include removal of some existing rock and timber and placement of new rock and concrete fill. This would result in loss of habitat for some species and a gain in potential habitat for others. An estimated 0.16 acres of rock and timber would be removed, however, 0.43 acres of rock and concrete would be gained, resulting in a net increase of 0.27 acres of new substrate. Similarly, the 53 new concrete piles supporting the proposed floating dock would provide additional substrate for colonization by intertidal organisms. The losses of benthic habitat would be short-term due to proposed replacement of alternative substrate material.

Public Utilities (pp 126 to 127)

If the proposed project is implemented, an increase in impermeable surface areas, associated primarily with the floating berths and walkways, would occur. Stormwater runoff from these surfaces would drain directly to the Harbor. The estimated increase in impermeable surfaces associated with the floating berths and walkways would not affect the existing combined stormwater/sewer collection system.

Public Services (pp 128 to 129)

The incremental increase in demands for police services could be accommodated to some extent by the existing police force, although crime prevention measures would be required to minimize the additional demands for police services. Existing levels of staffing and equipment at the San Francisco Fire Department and the Port Fire Marshal would be expected to be adequate to accommodate any incremental increase in demands for their services.

Air Quality (pp 130 - 133)

It is unlikely that any increased level of fish processing activities associated with the proposed project would result in a noticeable increase in "fish" odors in the project area, particularly in Aquatic Park. In addition, the proposed project would not be expected to result in any increased odors associated with boating and vessel activity, such as diesel fumes, since the project would be designed to accommodate the existing level of boating activity and an increase in number of boats is not anticipated.

Transportation (pp 134 - 144)

The Hyde Street Harbor component of the project would have an increase of 45 spaces over the number of parking spaces that currently exist. The spaces would serve the existing users of the Harbor in that it is not anticipated that the improvements at the Harbor would result in an increase in the number of vehicle trips to the Harbor. Existing and future trips to the Harbor are already included as part of the existing traffic volumes and operating conditions in the study area.

The preferred component of the project for Pier 45 Sheds A and C, the Fisheries Center, would generate a total of 58 vehicle-trips during the weekday AM peak hour, 81 vehicle-trips during the weekday PM peak hour, and 98 vehicle-trips during the weekend midday peak hour. With the proposed project, traffic operating conditions at the five study intersections would remain essentially unchanged. Under all conditions, all intersections would operate at Level of Service B or better except the intersection of Jefferson/Powell/The Embarcadero, which would operate at LOS C in the future with the proposed project and cumulative growth. If portions of Taylor Street and the Embarcadero were to operate as two-way streets near Pier 45, all intersections, including that at Jefferson/Powell/The Embarcadero, would operate at Los B. The proposed

project would not cause the Level of Service to degrade to an unacceptable Level of Service E or F during the weekday AM or PM peak hours, nor during the weekend midday peak hour.

The Harbor berthing addition is not expected to create any additional parking or loading requirements due to the fact that the additional berths would not bring in a noticeable number of new boats and forty-five parking spaces are being added in close proximity to the additional berths. The proposed improvements to Sheds A and C of 95,000 square feet of visitor center, retail and conference center space would require 193 parking spaces according to the San Francisco Planning Code. A total of 200 spaces would be added to be utilized as shared spaces by the users of Sheds A and C. The peak parking demand for the Fisheries Center would be approximately 117 spaces. Based on the square footage and the proposed uses, one loading space is required, and one space would be provided for each of the two sheds.

Transit demand generated by the proposed project is expected to be minimal. It would be distributed between four existing transit lines and two cable car lines that serve the project area. Most of the existing MUNI lines have excess capacities in the vicinity of the project. The F-Market line which is a new operative line could relieve the over-capacity condition that exists with the cable cars during the weekday PM peak and the weekend midday peak hour. Therefore it is not anticipated that this additional transit demand would result in impacts to transit.

A pedestrian crosswalk analysis was conducted for Existing Plus Project conditions at the intersection of Taylor and Jefferson Streets for the weekday and weekend midday peak hours. The addition of project-generated pedestrian trips to existing pedestrian volumes would not result in a noticeable change in the LOS from existing conditions.

Hazards (pp 145 - 163)

A 20,000-gallon and a 210,000-gallon above ground fuel tanks will supply diesel to the fuel dock; the tanks would be located at 440 Jefferson Street. There would be 300 feet of pipe from the tanks to the fueling station replaced and equipped with automatic shut off features, a leak detection system, a remote operated shut off switch, and pressure sensitive valves as part of the proposed project. The fuel dock would also be provided with spill containment equipment. Any hazardous materials identified in the buildings or piers would be properly removed and disposed

of by Port staff and/or subcontractors prior to pier removal or building renovation or demolition. The removal and disposal would be performed in accordance with applicable federal, state, and local hazardous materials regulations described in Appendix E. This would minimize the potential risk of exposure of workers and the public to hazardous building materials.

Installation of the proposed utilities would require excavation of more than 50 cubic yards of soil along the alley leading to the fuel dock and pump out facility. Hazardous wastes may potentially be present in the soil due to previous land uses along the proposed utility alignment. Based on the results of the site history, computerized record search, regulatory agency files, and a visual reconnaissance by a consultant there are numerous potential sources of hazardous materials and wastes within a one-half mile radius. The regulatory databases used to identify these sites are discussed in Appendix E. The Port would be required to sample and analyze any excess soil that could not be placed back in the excavation so that the soil could be classified for disposal purposes. Depending on the chemical quality it may be disposed of at a Class I, Class II, or Class III disposal facility within California. Soil with petroleum hydrocarbon levels greater than 100 milligrams per kilogram must be treated or disposed of at a Class I or II landfill.

It is estimated that approximately 20,000 cubic yards of sediment would be dredged to create the planned berths. Based on the sediment sampling and the bioassay results, it is expected that the sediments would be suitable for disposal at the Alcatraz disposal site. Minimal worker or public exposure to sediments would be expected during sediment dredging and disposal.

MITIGATION MEASURES (pp 165 to 172)

In the course of project planning and design, measures have been identified that would reduce or eliminate potential environmental impacts of the proposed project. Some of these measures have been, or would be, voluntarily adopted by the Port and thus are proposed; some are under consideration. Implementation of some measures may be the responsibility of other agencies. Measures under consideration may be required by the Port Commission, or the Planning Commission, as conditions of project approval, if the project were to be approved. Each mitigation measure and its status is discussed in the document.

There are several measures required by law that would serve to mitigate potential impacts; they are included and summarized for informational purposes in the body of the DEIR. Examples are those measures related to: water quality; observance of state and federal OSHA safety requirements related to handling and disposal of hazardous materials; dredging; police and fire protection; and utilities services.

No significant impacts are identified for any of the areas studied in this DEIR: Land Use and Zoning, Water Quality, Marine Biology, Public Utilities, Transportation, or Hazards. These areas do not require mitigation to prevent significant impacts. However, several measures have been suggested to the Port during preparation of this DEIR and several measures are included as part of the proposed project to further reduce potential impacts.

Water Quality

The measures that follow are proposed as part of the project. The Port has in place a "Best Management Plan" for dealing with the water quality issues related to maintenance dredging, oil spills, and cleanup of floatables in the Harbor. It now includes measures required by law and those that are described as part of the project. Measures required by law address oil spill response, dredging practices, disposal of spoils, and the handling of other wastes from boats. The Port would continue to: educate Port personnel and fishing boat owners about illegal discharges; use a work skiff daily to collect floating debris; and avoid dredging activities during herring spawning season.

Because of the proximity to Aquatic Park and the ongoing concern about water quality issues, the Port has agreed to expand its existing "Best Management Practices Plan" to include specific measures described in Section IV ENVIRONMENTAL IMPACTS for further protecting and enhancing water quality in the Harbor.

New measures proposed by the Port as part of the project would include: installation of new equipment to minimize the potential for fuel leaks from the storage tanks to the fuel dock; provision of an oil-water separator for the fuel dock area designed to collect runoff and direct stormwater to the separator prior to disposal in the Bay; installation of a new pump-out station at the fuel dock for disposal of chemical toilet wastes from the boats in the Harbor; enclosure of new berths on three sides by floats having protective pontoons and skirts to contain floatable

wastes within the Harbor; use of temporary wraps on any piles to be removed to reduce the release of particles to the Bay; and coordination of dredging activities so as not to conflict with scheduled swimming activities or herring season.

Public Services:

The proposed project would comply with all laws and ordinances related to egress, fire prevention and fire spread control.

Hazards

There were no significant impacts identified in relation to hazardous wastes. There are a number of mitigation measures required by law to address the potential presence of hazardous wastes within the project area. See V. MITIGATION MEASURES, pages 168 to 170. The measures include a survey of buildings in the project area to identify potential hazardous building materials which would be abated in accordance with the requirements of the Bay Area Air Quality Management District, the California Occupational Safety and Health Administration and federal, state and local laws. The Port will insure compliance with the San Francisco Public Works Code, Section 1000, Article 20, "Analyzing the Soil for Hazardous Wastes" if more than fifty cubic yards of soil is excavated and a site mitigation plan would be prepared if results of testing indicate the necessity for it.

Cultural Resources

The Initial Study provided that the program of archaeological monitoring described in the 1989 report would mitigate potentially significant impacts of the project and it is therefore included in this DEIR, as follows: given the strong possibility of encountering the remains of cultural or historic artifacts or features within the project site, the Port would retain the services of an archaeologist(s) with expertise in both prehistoric and ethnographic materials and maritime history to supervise a program of on-site monitoring during site excavation. See page 171 in the DEIR for the complete measure.

ALTERNATIVES TO THE PROPOSED PROJECT (pp 175-184)

As part of the environmental review process for the Hyde Street Fishing Harbor/Pier 45 Sheds A and C project, the City has analyzed three alternatives. Neither the preferred project nor any of

the alternatives studied would result in significant environmental impacts. However, the proposed project is the environmentally superior project because it is a reduced scale of harbor development and would result in less Bay cover and Bay fill. The Port, as the project sponsor, has not rejected any of the three alternatives. The maximum harbor expansion alternative proposed by the Port in 1988 is no longer believed to be necessary at this time or economically feasible, given the decreasing volume of the commercial fishing haul and the fewer number of vessels in the Bay Area. However, this alternative is retained for informational purposes and for future possible consideration by the Port.

One alternative design for the Harbor and Harbor Services Area is considered, and two alternative uses for Pier 45 Sheds A and C are considered. Because most physical changes for each of the alternatives are the same as for the proposed project, the analysis focuses on features or uses that would have differences. For the Harbor Berths and Service Area Alternative, the analysis focuses on potential effects to water quality and marine biology from an expanded dock area (86 floating berths compared with 40 floating berths for the proposed project). The quantities of bay fill for the two Harbor alternatives differ. For the two Pier 45 Sheds A and C Alternatives, the analysis focuses on identifying differences in traffic and parking impacts.

In addition to reasonable alternatives to the project, CEQA requires that the EIR evaluate the "No Project" Alternative. The No Project Alternative analysis must discuss existing conditions as well as reasonably foreseeable future conditions, without the project based on current plans and available infrastructure.

No Project Alternative

The No Project Alternative would consist of leaving the conditions in the Main Harbor, which is bordered by the Hyde Street Pier on the west, the breakwater on the north, and Pier 45 on the east, as they exist now. The key features of the No Project Alternative (existing conditions) are: retention of the 116 assigned boat slips; within the Inner and Outer Lagoons of the Harbor, boats would continue to side-tie and double-stack, and facilities for these activities would not be upgraded; no pump-out or restrooms would be available to fishing vessels or operators. On Pier 45 Sheds A and C: existing storage would be retained; parking in the sheds, valley, and on "forepier" would remain; special events in the Sheds would occur periodically; space for

temporary special art and cultural exhibits, and other short term community events would continue; a staging area for visiting ships and the Pampanito would remain; 1000 sq. ft. office space in Shed A would remain; and informal, unimproved public access along the outside aprons of Pier 45 would continue. Also, on Pier 45 Sheds B and D, it is anticipated that the fish handling would fully occupy the 140,000 sq. ft.

Information describing the existing conditions of the project area is in Section III. SETTING (pp 33 to 108) . The existing conditions of inadequate berth space for commercial fishing boats in the harbor, limited parking for the fishing boat crews, poor sanitary facilities, and outdated fueling equipment with a greater possibility of spills, would remain. The existing working wharf, which includes Piers 45, 47, Fish Alley (Seawall lots 302 and 303) and the adjacent water and berthing space, is a fish distribution center for the San Francisco Bay Area and source of seafood for Wharf area restaurants. There are minimal harbor service facilities to support the commercial fishing industry. Under the No Project Alternative this would not change. The existing mix of tourist serving uses, limited public access and support space for ferries and other vessels would not change, except as there could be some incremental minor changes over time.

Alternative A - Hyde Street Fishing Harbor Maximum Expansion

The maximum expansion Alternative A for the Harbor and Harbor Services was developed from the results of the 1988 Feasibility Study. Survey information in 1988 defined future needs of the commercial fishing industry and indicated a need for an expanded facility for fishing boats and the need for a new Harbormaster's Building in the harbor area. Survey information collected in 1994-1995 indicated that the increased need no longer exists; therefore this project alternative is not now considered reasonable by the Port staff. However, this Alternative A has been retained in this DEIR for comparison purposes with the Proposed Project. In the event that the needs of the commercial fishing industry return to 1988 conditions in the relatively near future (5-10 years) this analysis could aid in the consideration of future expansion of harbor facilities.

The Hyde Street Fishing Harbor maximum expansion Alternative A would have these features: off the Hyde Street Pier, construct new berths for 116 boats, which would have 86 floating berths, 10 side tie spaces and 10 stern tie spaces; retain the existing 99 assignable boat berths + 17 dock-tie boat spaces in the Fisherman's Wharf Inner and Outer Lagoons; provide a new 4,100-sq. ft. Harbormaster's Building on the reconstructed area of the Hyde Street Pier (this

alternative would involve 32,150 sq. ft. of Bay cover and 126 concrete piles); add 24 more parking spaces approximately 200 feet south of the Pier and 28 parking spaces on the Pier; a new fuel station and harbormaster's building; and a vessel sewage pump-out station.

There were no substantial differences in traffic or parking effects for this alternative compared to the proposed project because some boats originate from other Bay Area locations and there is not a one-to-one ratio between fishing boats and vehicles in the project area. Additionally, vehicle traffic associated with commercial fishing does not occur during peak traffic commute periods.

Water quality conditions would be expected to remain similar to existing conditions, which is generally within the same range as water quality from nearby parts of San Francisco Bay and in compliance with Basin Plan water quality objectives, because no direct relationship has been found between the presence of fishing boats and water quality effects. There would be short-term water quality effects such as increased turbidity and suspended solids during construction, as with the proposed project, but following construction, conditions would be expected to be in compliance with Basin Plan water quality objectives similar to existing conditions, the No Project alternative, and the Proposed Project. The maximum build-out alternative (Alternative A) would increase Bay cover from floating berths by 14,450 sq. ft. compared with the proposed project. The total increase in fill/cover over the proposed project would be 31,505 sq. ft. of cover and 647 cy of fill in the Bay, and 3,315 sq. ft. of cover and 460 cy of fill in the Shoreline Band. Within the Shoreline Band BCD's primary criteria for evaluation is maximum public access; Alternative A would provide the same public access as the proposed project. Alternative A does not include additions to or changes in the uses of the Sheds on Pier 45.

Alternative B - Pier 45 Sheds a and C - Conference Center Focus

The differences between the Pier 45 Alternatives B and C and the Proposed Project are interior building design and uses of the Pier Sheds A and C. The exterior of the Sheds would not change, and the proposed Hyde Street Harbor expansion and improvements would be as described for the Proposed Project. The conceptual design for a Conference Center focus in the sheds is shown on Figure 20, page 180. It is summarized as follows: PIER 45 Sheds A and C would have 205,000 square feet of new uses: a Conference Center containing 60,000 sq. ft. of

multi-functional conference facility and event space; 50,000 sq. ft. of parking; 40,000 sq. ft. of retail; 10,000 sq. ft. of office space; and 45,000 sq. ft. of outdoor public access.

The travel demand of the Conference Center Alternative B, which does not include the visitor center use that is part of the proposed project, but has a greater square footage of conference facility, would be expected to generate a higher number of vehicle-trips than the Proposed Project. Traffic operating conditions were analyzed for the intersections closest to the Pier. Under the Conference Center alternative, all intersections would operate at LOS B or better. The Conference Center alternative would, in general, result in larger number of transit riders than the Proposed Project during the weekend midday peak hour about 50 trips. These trips would be distributed between the existing transit lines, the cable cars, and the new F-Market line. It is anticipated that these trips would be accommodated within the existing and planned transit lines which currently operate with available capacity for additional passengers.

Under the Conference Center alternative, the LOS for conditions for the crosswalks at Jefferson and Taylor Streets would be the same as identified for the Proposed Project. All crosswalks would operate at LOS D or better, except for the east crosswalk which would continue to operate at LOS E.

Parking/Loading Conditions: The Conference Center alternative would result in a parking demand of 118 spaces (compared with the proposed parking supply of 200 spaces). Under this alternative the Planning Code requirement would be 260 spaces, and therefore there would be a shortfall of 60 Code-required spaces. As part of the conditional use request to be reviewed by the Planning Commission, a reduction in Code required spaces could be granted. Loading activity associated with this alternative would result in a daily demand of 15 delivery/service trips per day, and a demand for one loading space during the peak and average hours; two are proposed, and thus the demand would be met. All other potential effects would be the same as described for the proposed project because Alternative A would have the same harbor features as the proposed project.

Alternative C - Pier 45 Sheds a and C - Educational Center Focus

Similar to the Proposed Project use of Sheds A and C, and to Alternative B above, the Pier 45 Educational Center Focus Alternative would involve physical changes to the interior design and

use of the Sheds. The facilities for the Pier 45 Education Center Focus are shown in Figure 21 (page 184). Alternative C for Pier 45 Sheds A and C would create 235,000 square feet of new uses. The Education Center would occupy 125,000 square feet and function as a multipurpose facility to serve both the seafood industry and visitors; it would be designed for public viewing and hands-on education to include bilingual fish processing training, seafood inspection, retail marketing, "In-class workshops", seafood cooking and demonstrations. There would be no conference center space (compared with 50,000 SF for proposed project); parking would occupy 50,000 square feet (same as proposed project); other retail - 15,000 square feet (compared with 40,000 square feet for proposed project); no office space (compared with 10,000 square feet for the proposed project); and Outdoor Public Access of 45,000 square feet would be the same as the preferred alternative.

Travel demand for the Educational Center alternative, which includes predominantly education/visitor uses, would generate about 108 more vehicle-trips than the Preferred Alternative during the weekday PM and an increase of 91 vehicles during the weekend midday peak hours. The alternative would contribute less than 10% to the intersections of Taylor/Jefferson and Jefferson/Powell/The Embarcadero during the weekend midday peak hour, and approximately 15% during the weekday PM peak hour. Despite the estimated increase in vehicle trips, the nearby intersections would operate at LOS conditions similar to the proposed project with the Educational Center alternative. All intersections would operate at LOS B or better. (See Table 18, page 189).

Transit/Pedestrian Conditions for the the Educational Center alternative would result in larger number of transit riders than the Proposed Project. As with the Proposed Project, the trips would be distributed among the existing and proposed new transit lines serving the Fisherman's Wharf area, which currently have available capacity. The weekend pedestrian conditions at the intersection of Jefferson and Taylor would be similar to the existing conditions as well as those identified for the Proposed Project. All crosswalks would operate at LOS D or better, except for the east crosswalk which would continue to operate at LOS E. The Educational Center alternative would result in a parking deficit of about 57 spaces. However, the Planning Code requirement of 93 spaces would be met by the 200 proposed spaces in Sheds A and C. The Educational Center Alternative would generate a daily demand of 15 delivery/service trips per

day, and a demand for one loading space during the peak and average hours; two loading docks are proposed.

All other potential effects would be the same as those described for the Proposed Project.

II. PROJECT DESCRIPTION

A. OBJECTIVES OF THE PROJECT SPONSOR

The Port of San Francisco (Port) is proposing to construct the Hyde Street Fishing Harbor, a new 60 space floating dock harbor to add to the existing 116 berth (99 berths and 17 side-tie spaces) commercial fishing harbor at Fisherman's Wharf, and to develop uses complementary to the fishing industry on Pier 45 in approximately 140,000 to 190,000 square feet of Sheds A and C. These proposed projects relate to earlier improvements made in the Fisherman's Wharf area to serve the commercial fishing industry. The earlier projects include: a breakwater built by the U.S. Army Corps. of Engineers in 1986; approximately \$11.6 million in earthquake repairs at Pier 45 completed in August of 1995; a centrally located harbormaster's office at the existing harbor completed in May of 1995; and extension of fuel dock hours and lowering of prices for fishermen accomplished in 1995.¹

The Port's objective is to construct a harbor that can accommodate the unmet demand for berthing of the existing commercial fishing industry, thereby improving the convenience, safety and efficiency of harbor operations. The existing 116 berths and side-tie spaces leased by the Port in the lagoons at Fisherman's Wharf are 100 percent occupied, and there is some demand for transient berthing and longer boats (40-50 foot) which is currently unmet. For example, it is common to have forty or more boats rafted (tied to a pier and tied to other boats) in the harbor and 12 to 14 boats side-tied to Pier 45 because of the limited number of berths in Fisherman's Wharf.² Many longer boats overhang the existing berths. Commercial fishing boats are the harbor's priority user and the Port gives them preferential berth assignments.³ In the last three

¹ Dan Hodapp, Port of San Francisco, memo dated May 23, 1995.

² Conversation with John Davey, Port Wharfinger, April, 1995.

³ According to San Francisco Port Commission Terminal Tariff, FMC No. 4, Rules and Regulations (March 1, 1994), "Every boat entering the jurisdiction of the San Francisco Port Commission shall immediately become subject to the authority and direction of the Chief Wharfinger. Each boat shall be berthed in the space assigned by the Chief Wharfinger" (Item No. 820). . . . Preferential Assignment is the priority right granted a person to use a certain stall space at Fisherman's Lagoon, including such improvements and areas as are designated in the assignment. Commercial Fishing Vessels, Historical Commercial Fishing Vessels and Fishing Party Boats shall be given priority over Pleasure Boats for these stalls" (Item No. 831).

II. PROJECT DESCRIPTION
A. Objectives of the Project Sponsor

years (1992/93, 1993/94 and 1994/95) approximately 170 commercial fishing vessels were in the lagoons and harbor on a daily basis during the herring season.⁴

Although fish landings data show that the volume of landings in the Bay Area has declined by about 40% since 1988, and about 52% in San Francisco,⁵ the Port believes that the existing facilities at Fisherman's Wharf and Pier 45 are insufficient to meet both existing and future commercial fishing industry needs. However, due to the seasonal nature of the commercial fishing industry, there may be times when the Fishing Harbor is not fully leased and recreation boats will be provided an opportunity to temporarily use spaces.⁶

The existing harbor does not have a pump-out facility for boats to remove sanitary waste from their on-board storage tanks, nor does the existing harbor have restrooms for boat operators. The proposed project would include a pump-out and restroom adjacent to the existing fuel dock on the east side of the Hyde Street Pier. Parking for boat operators would also be provided at the foot of the Hyde Street Pier and at the backside of the building at 490 Jefferson.

The Port is also proposing to place new uses complimentary to the fishing industry in the existing Sheds A and C on Pier 45 as part of the project. Together these two sheds contain approximately 140,000 square feet of ground space and are adjacent to Sheds B and D, which are leased for fish processing and fish handling. From 1993 to 1995 the Port made seismic and building code improvements to Pier 45. Since completion of the repairs in August of 1995 the Port has leased about 80 percent (as of November 1995) of the space in Sheds B and D along the west side of the Pier for fish processing. (Sheds B and D are not part of the proposed project. Information on uses of these sheds is provided as background for water quality).

The Port's overall objectives for Pier 45 are: 1) to accommodate the fish handling industry in modern, sanitary facilities; and 2) to provide for public and visitor uses complementary to the fishing industry and to the Fisherman's Wharf area.

⁴ Conversation with John Davey, Port Wharfinger, April, 1995.

⁵ Department of Fish and Game Statistics for Selected Species, San Francisco Bay Area Commercial Fish Landings 1988-1993; the San Francisco Bay Area includes: San Francisco, Bodega Bay, Princeton, Oakland, and Sausalito. Data for Fisherman's Wharf/Pier 45 show a decrease of 61% fish landings between 1988 and 1993.

⁶ Dan Hodapp, Port of San Francisco, memo dated May 23, 1995.

II. PROJECT DESCRIPTION
A. Objectives of the Project Sponsor

A feasibility study on specific uses of Sheds A and C that would complement the development of the harbor area at Fisherman's Wharf was completed for the Port in 1994 using grant funding from the National Oceanic and Atmospheric Administration (NOAA).⁷ Building on a 1988 feasibility study for Pier 45 by the California State Coastal Conservancy,⁸ the 1994 *Concept Development, Market and Financial Feasibility Analysis for the Fisheries and Environmental Research Center*, concluded that uses of Sheds A and C on Pier 45 need to satisfy the following objectives:

- meet the needs of the commercial and recreational fishing industries
- provide public access to the waterfront
- complement the existing activities and uses within the Fisherman's Wharf area
- preserve or enhance revenues accruing to the Port

The 1994 study included extensive dialog with representatives from the fishing and seafood industries and Fisherman's Wharf retail area. It was recognized early in the study that industry-serving uses would not be financially self-supporting and that complementary uses would be necessary to generate revenue to support the overall development of the Pier.

On the basis of the findings outlined above, the proposed project would improve Sheds A and C for a combination of commercial fishing industry and visitor/public uses. Existing parking on the forepier between the sheds and the Embarcadero (68 spaces) would be retained. The proposed Pier 45 project would include 200 parking spaces for Sheds A and C.⁹ The Port is considering three primary alternative uses for Sheds A and C: an Educational Center; a Conference Center; and a Fisheries Center. All uses would include outdoor public access, parking and retail space. The proposed alternatives are described in Section C of the Project Description, and in Section VII, ALTERNATIVES TO THE PROPOSED PROJECT.

⁷ Concept Development, Market and Financial Feasibility Analysis for the Fisheries and Environmental Research Center, By Sedway & Associates, with Coastal Resources Center and Kwan Henmi Architectural Planning, November, 1994.

⁸ Coastal Conservancy Study AB 45: Preliminary Feasibility - Commercial Fishing & Marine Environmental Research and Training Center, Pier 45 and Satellite Locations, December 1988.

⁹ Parking on Pier 45 prior to the earthquake retrofit included 50 spaces in Shed A and C and 120 spaces in the valley between the Sheds.

B. PROJECT LOCATION

The proposed project is in the Fisherman's Wharf area of San Francisco's northern waterfront (see Figure 1, page 5). The project site is on Port property and is under the jurisdiction of the Port Commission of the City and County of San Francisco. The project site is also within the Coastal Zone and Special Area Plan for the San Francisco Waterfront under the jurisdiction of the Bay Conservation and Development Commission (BCDC).

The project site is bounded by a breakwater and the San Francisco Bay to the north, the San Francisco Maritime Park/Hyde Street Pier to the west, Jefferson Street to the south, and Taylor Street and Pier 45 to the east (see Figure 2, page 6). It is in a C-2 (Community Business) use district, and a 40-X height and bulk district, and in the Northern Waterfront Special Use District No. 1, in which non-maritime uses require Conditional Use authorization from the City Planning Commission, and maritime-related uses are principal permitted uses requiring no special Planning Commission review. The site is within the Fisherman's Wharf Sub-area of the City of San Francisco's Master Plan and the Port's Waterfront Land Use Plan.

EXISTING USES ON OR ADJACENT TO THE PROJECT SITE

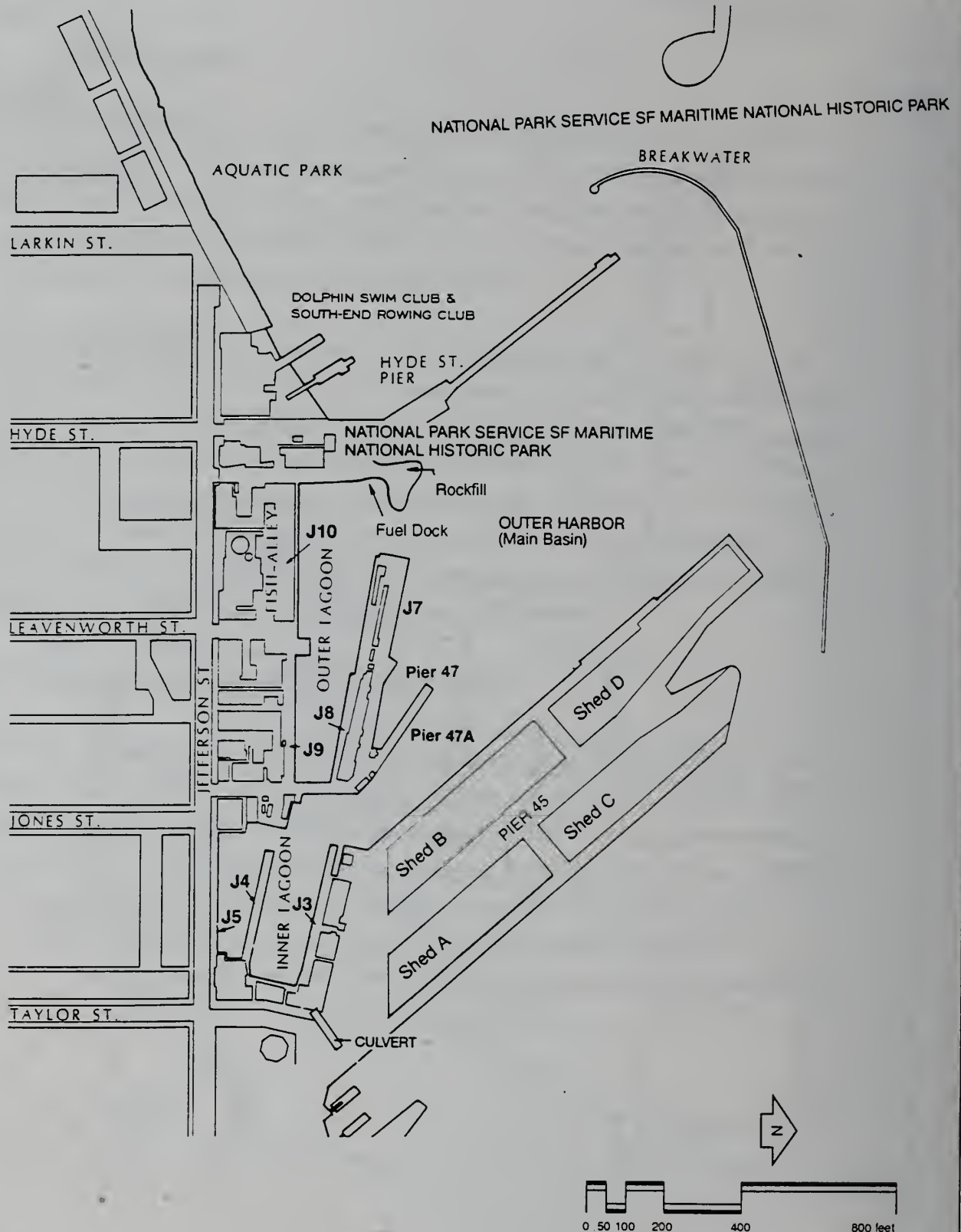
Most of the Fisherman's Wharf area was originally a shallow cove of San Francisco Bay. The cove was incrementally filled in until completion of the Great Seawall in 1890. The first commercial activities in the area were by immigrant fishermen who made fishing an important industry in the City. The Wharf became the region's fishing industry center in the early 1900's. It is the fishing industry that gave Fisherman's Wharf its character and it remains a major attraction for the area's visitors and local residents. The area restaurants originated as extensions of the fishing industry, and many remain at the wharf's edge, overlooking the active and historic fishing fleet.



LOCATION MAP

FIGURE NO. 1

SOURCE: PORT OF SAN FRANCISCO/THE DUFFEY COMPANY



EXISTING SITE PLAN

FIGURE NO. 2

A major portion of the Hyde Street Pier is leased by the Port to the National Park Service (NPS) for the San Francisco Maritime National Historic Park. Five historic ships that belong to the Park Service are moored off both sides of the Hyde Street Pier. The east side of the Hyde Street Pier includes about 0.16 acre of rockfill and about 150 wooden piers supporting a 420 square foot fuel station and paved parking area for five vehicles. There are currently two fuel dispensers (no pump-out, no restrooms, no convenience store).

To the west of Hyde Street Pier is Aquatic Park, a public recreational swimming and rowing area of the Bay managed by and under jurisdiction of the National Park Service - Goldengate National Recreation Area. Aquatic Park has occupied this location since 1938. At the foot or landward end of the Hyde Street Pier and to the west of the Pier (502 Jefferson Street) are the private clubhouses used by the Dolphin Swimming and Boating Club and the South End Rowing Club. These clubs have existed since the late 1800's and their clubhouses have been located along the waters' edge at other locations until they were moved to the current location in 1938. The clubhouses are on public park property under the jurisdiction of the San Francisco Recreation and Park Department, leased to the clubs for recreational use.

While there are strictly only 116 existing berths and side-tie lease spaces located in both the Inner and Outer Lagoons, rafting of boats allows about 170 fishing boats in the Fisherman's Wharf Harbor. All berths and spaces are leased and used year-round. Additional fishing vessels regularly use the harbor, and raft up to Pier 45, Wharf J7 nearby, or moor in the harbor wherever space is available (see Figure 3). Throughout the year there are also varying numbers of transient vessels using the harbor. The herring season, which runs from November through March, is the busiest time of year for both fishermen and fish handlers at Fisherman's Wharf.

Prior to the Loma Prieta Earthquake of 1989, the primary use of Pier 45 was to provide space for fish handlers and parking for fishermen. Four sheds, which total approximately 270,000 square feet, are on the Pier. Sheds B and D (which are not part of the proposed project), totaling about 130,000 square feet on the west side of the Pier, have been traditionally used for fish handling, circulation, and storage of fishing/boat gear. As a result of the 1989 earthquake damage, most tenants from Sheds B and D temporarily relocated to Fish Alley and to Piers 28, 33 and 54.



SOURCE: THE DUFFEY COMPANY .

Fisherman's Wharf Hyde Street Harbor & Pier 45, Sheds A and C

II. PROJECT DESCRIPTION
B. Project Location

The space allocation created after the earthquake repairs does not represent a substantial increase in any use from that which existed before the earthquake. There is no change in the exterior envelope or appearance of the sheds. The space in Sheds B and D devoted to various uses after the earthquake repairs is 113,900 square feet for fish handling and circulation, and 18,720 square feet for storage, restrooms and utilities.¹⁰

Prior to the earthquake Sheds A and C, totaling about 140,000 square feet of floor space on the east side of the Pier, were partially vacant and contained a variety of facilities: support space for the Red and White ferry boat fleet and the submarine Pampanito, which is moored along the eastern edge of the Pier; office space for area merchants; parking for 50 vehicles; and a space where special public events, such as Festa Italiana, were held. The space between the sheds, the "valley," was used for truck access and parking for tenants of about 120 vehicles. Since the earthquake the "valley" has also been used for tour bus parking (up to 20 buses) and for movie production equipment. Existing parking on the forepier, or landward side of the sheds (about 68 spaces), is also used by tenants in the area. Public access is along the aprons on the east and west of the sheds on Pier 45.

The Port has completed the repairs of the earthquake damaged portions of Pier 45 at a cost of approximately \$11.6 million, largely funded with a grant from the Federal Emergency Management Agency (FEMA) and other state and federal sources.¹¹ Construction started in 1991 to demolish interior partitions and structures, repair and replace damaged utilities and floor slabs, repair the seawall, replace supporting piles and stabilize soils and fill areas under the Pier, add restrooms, add floor drains, floor sinks, and solids separators, and add a stormwater oil and water separator in the valley area between the sheds for storm water runoff.¹² Seismic repair of Pier 45, was completed by August, 1995. The fish processing uses have returned to Sheds B and D with about 80 percent of the sheds leased as of November 1995.¹³

At the turn of the last century, San Francisco handled more fresh fish than all other West Coast ports combined. Today, it has the largest concentration of fish distributors and brokers on the

¹⁰ Department of City Planning, Planning Department File 88643E, note to file, October 26, 1990.

¹¹ The Department of City Planning, Office of Environmental Review, issued an emergency Statutory Exemption (CEQA Guidelines Section 15260-15277) in November of 1989 for the repairs of earthquake damage at Pier 45.

¹² FEMA Project, Pier 45, Plans, December 1993.

¹³ Dan Hodapp, Port of San Francisco, memo dated November 6, 1995.

II. PROJECT DESCRIPTION
B. Project Location

west coast and remains the region's handling and distribution center. As shown in Table 1 San Francisco Bay Area fish landings have declined between 1988 and 1993 from 51.5 million pounds to about 30.3 million pounds. Table 2 shows that about 3.1 million pounds of fish were landed in 1993 (brought to the Harbor and off-loaded to the Pier by boats) at Fisherman's Wharf/Pier 45, with more brought in overland from other ports to process and trade.¹⁴ This is a decline of about 60% compared to 1988. The 1994 update of Table 1 for the San Francisco Bay Area commercial fish landings shows a further decline in total pounds landed of 28,292,500.

For at least a decade, during the early morning hours (approximately 3:30 AM to 7 AM), Jefferson Street in front of Pier 45 has been the site of fish distribution and trading from trucks. An average of ten to twelve trucks were observed along Jefferson Street during the early morning trading activities in January of 1995 (see Figure 4). The Port proposes to move this activity to the central "valley" on Pier 45 where truck movement and parking would have less impact on street circulation. Use of the parking triangle adjacent to Pier 45 will also be encouraged for this early morning truck activity.

Fish Alley and Wharf J7 are located north of Jefferson Street on the waterside and between Pier 45 and the Hyde Street Pier. Fish Alley extends along Seawall Lots 302 and 303 between Jones and Hyde Streets and contains fish landing and handling facilities, storage areas for various types of gear, and fuel tanks that serve the fuel dock. (see map on page 6). Two existing fuel tanks were removed in January 1995 and replaced with two new 20,000-gallon tanks at 460 Jefferson Street. There are also retail and art gallery uses, limited parking, and restaurants along Jefferson Street.

¹⁴ California Department of Fish and Game, Statistics for Selected Species, 1995.

Table 1

SF BAY AREA COMMERCIAL FISH LANDINGS
Dept. of Fish & Game Statistics for Select Species

4.6-95 commfish

Species	1988		1989		1990		1991		1992		1993	
	Pounds	\$ Value	Pounds	\$ Value	Pounds	\$ Value	Pounds	\$ Value	Pounds	\$ Value	Pounds	\$ Value
Anchovy, Northern	1,085,448	\$122,538	1,665,190	\$162,526	1,573,980	\$153,145	1,012,330	\$108,090	362,430	\$34,406	537,736	\$108,972
Halibut, California	136,302	\$313,393	175,873	\$409,983	170,923	\$419,040	261,142	\$628,562	341,041	\$818,387	319,331	\$783,024
Herring, Roe on Kelp	15,877	\$31,755	87,584	\$175,117	185,750	\$1,525,370	143,971	\$1,253,960	127,872	\$702,725	-	-
Herring, Pacific	18,860,038	\$5,533,969	20,309,114	\$4,422,116	15,915,100	\$6,827,150	15,740,200	\$8,212,330	13,716,900	\$9,424,790	8,358,940	\$2,016,940
Lingcod	518,757	\$206,705	700,362	\$295,908	732,365	\$288,090	642,783	\$257,210	390,191	\$171,027	598,371	\$259,715
Rockfish, Bocaccio	807,759	\$295,732	667,982	\$237,931	1,494,490	\$489,491	811,023	\$265,300	676,128	\$246,983	707,250	\$259,235
Rockfish, Group Red	208,230	\$128,484	213,928	\$160,073	457,796	\$255,927	574,297	\$319,804	452,583	\$299,868	327,542	\$238,248
Rockfish, Unspecified	3,389,304	\$1,252,206	3,111,485	\$1,094,912	5,132,830	\$1,793,390	2,617,510	\$1,041,830	2,072,060	\$893,573	1,840,850	\$867,833
Rockfish, Widow	747,963	\$238,614	608,046	\$161,799	1,484,180	\$422,939	922,635	\$273,598	855,716	\$267,104	408,685	\$130,635
Sablefish	2,291,971	\$1,083,690	2,937,018	\$1,313,176	2,053,090	\$823,882	1,772,810	\$826,969	1,473,660	\$766,912	1,000,980	\$400,931
Salmon, Chinook	7,149,907	\$20,393,747	2,519,621	\$6,025,545	1,882,300	\$5,203,210	1,682,840	\$4,336,800	992,615	\$2,738,970	1,347,930	\$3,012,050
Sanddab	603,094	\$207,307	782,490	\$238,095	760,068	\$231,304	879,531	\$304,000	426,240	\$157,276	503,650	\$234,458
Sole, Dover	2,717,828	\$838,446	3,511,073	\$949,022	2,800,840	\$725,088	4,090,300	\$1,222,750	4,426,800	\$1,237,670	3,030,430	\$838,608
Sole, English	552,522	\$225,427	709,565	\$276,199	851,447	\$288,622	816,786	\$298,244	529,268	\$196,152	469,983	\$169,098
Sole, Petrale	518,284	\$379,514	517,886	\$403,934	626,626	\$507,523	519,297	\$431,409	349,710	\$284,619	355,043	\$289,769
Swordfish	41,089	\$167,494	331,202	\$1,185,872	329,133	\$1,124,820	315,794	\$1,282,440	330,626	\$1,159,470	280,568	\$956,032
Thornyhead	320,080	\$111,812	759,441	\$281,223	841,000	\$321,836	785,696	\$346,588	122,280	\$572,254	986,880	\$479,362
Tuna, Albacore	362,818	\$312,817	567,558	\$433,882	431,703	\$362,661	560,231	\$410,956	467,478	\$508,045	468,506	\$440,370
Crab, Dungeness	2,563,941	\$3,820,434	889,045	\$1,494,915	1,016,600	\$2,098,680	911,827	\$1,863,600	681,616	\$1,199,850	394,726	\$678,902
Shrimp, Bay	132,951	\$409,280	122,599	\$373,856	151,057	\$489,379	140,555	\$482,137	112,484	\$402,835	71,700	\$307,868
Urchin, Sea	5,179,818	\$1,715,666	4,896,862	\$2,065,673	5,563,450	\$2,971,000	5,723,970	\$3,977,070	3,918,790	\$2,962,530	1,773,140	\$1,462,140
Abalone, Red	117,937	\$449,011	128,100	\$536,470	104,984	\$498,943	76,393	\$380,596	120,019	\$668,466	79,732	\$556,278
Squid, Market	659,549	\$67,951	7,485	\$1,362	283,960	\$30,669	3,243,940	\$346,348	5,396,700	\$468,563	2,243,940	\$374,893
SF BAY AREA TOTAL	51,495,097	\$39,569,615	49,323,889	\$23,791,917	48,433,000	\$29,286,100	49,765,600	\$31,105,800	44,821,300	\$28,795,000	30,351,000	\$16,264,200

The major ports for commercial fish landings in the SF Bay Area are: San Francisco, Bodega Bay, Princeton, Oakland, and Sausalito.

TABLE 2: Fish Landing Volumes at Fisherman's Wharf/Pier 45 and Selected Northern California Ports, 1988 and 1993

<u>PORT</u>	<u>FISH LANDINGS (Pounds)</u>		<u>Change</u>
	<u>1988</u>	<u>1993</u>	
San Francisco*	21,843,900	10,501,700**	-51.9%
Fisherman's Wharf/Pier 45***	7,927,565	3,088,738	-61.0%
Bodega Bay	14,911,600	7,974,380	-46.5%
Princeton	5,686,840	6,534,240	+ 14.9%

* includes: Fisherman's Wharf

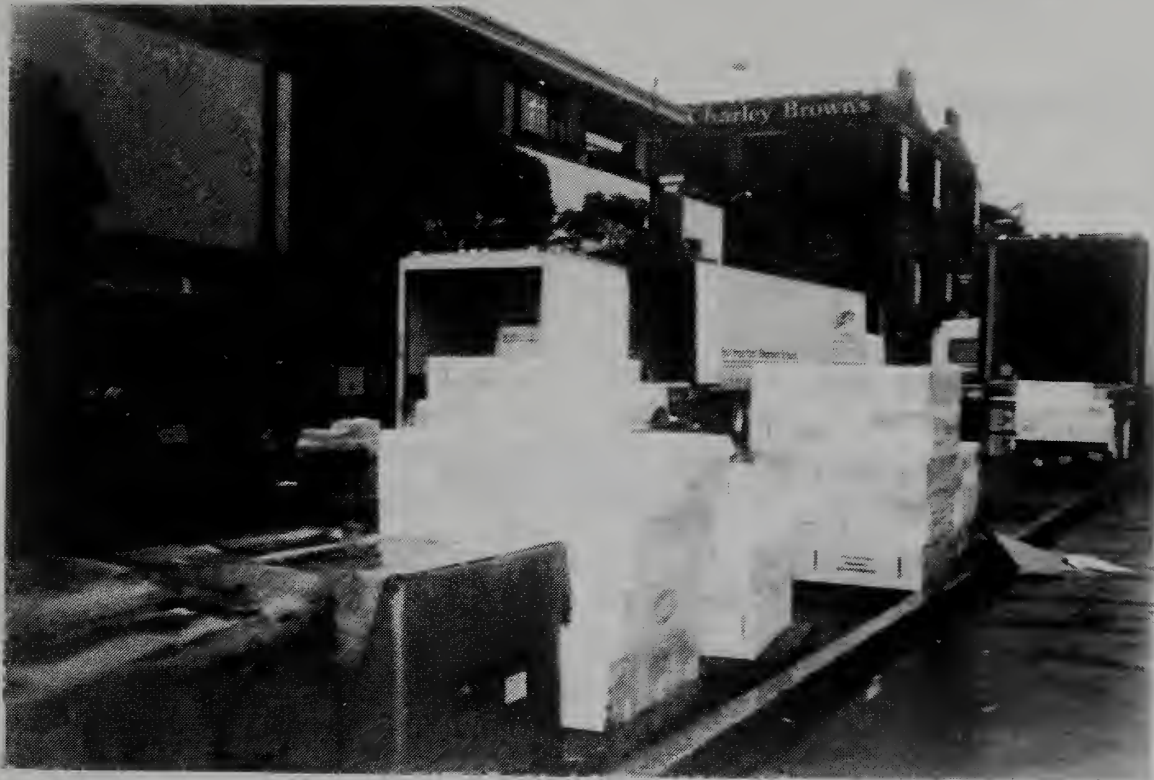
** 1994 San Francisco landings total 7,421,550

*** Landings Receivers: No End Fish Co., Larocca Seafood, Morgan Fish Co., Golden Seas Fisheries, Meatball Bait Distributor, ICM.

Source: EJL & Associates, from California Department of Fish & Game, June 24, 1995.

Figure 4 Jefferson St. Truck Trading Activity

II. PROJECT DESCRIPTION
B. Project Location



SOURCE: THE DUFFEY COMPANY

Fisherman's Wharf Hyde Street Harbor & Pier 45, Sheds A and C

C. PROPOSED PROJECT

The proposed project has three major components (see Figure 5):

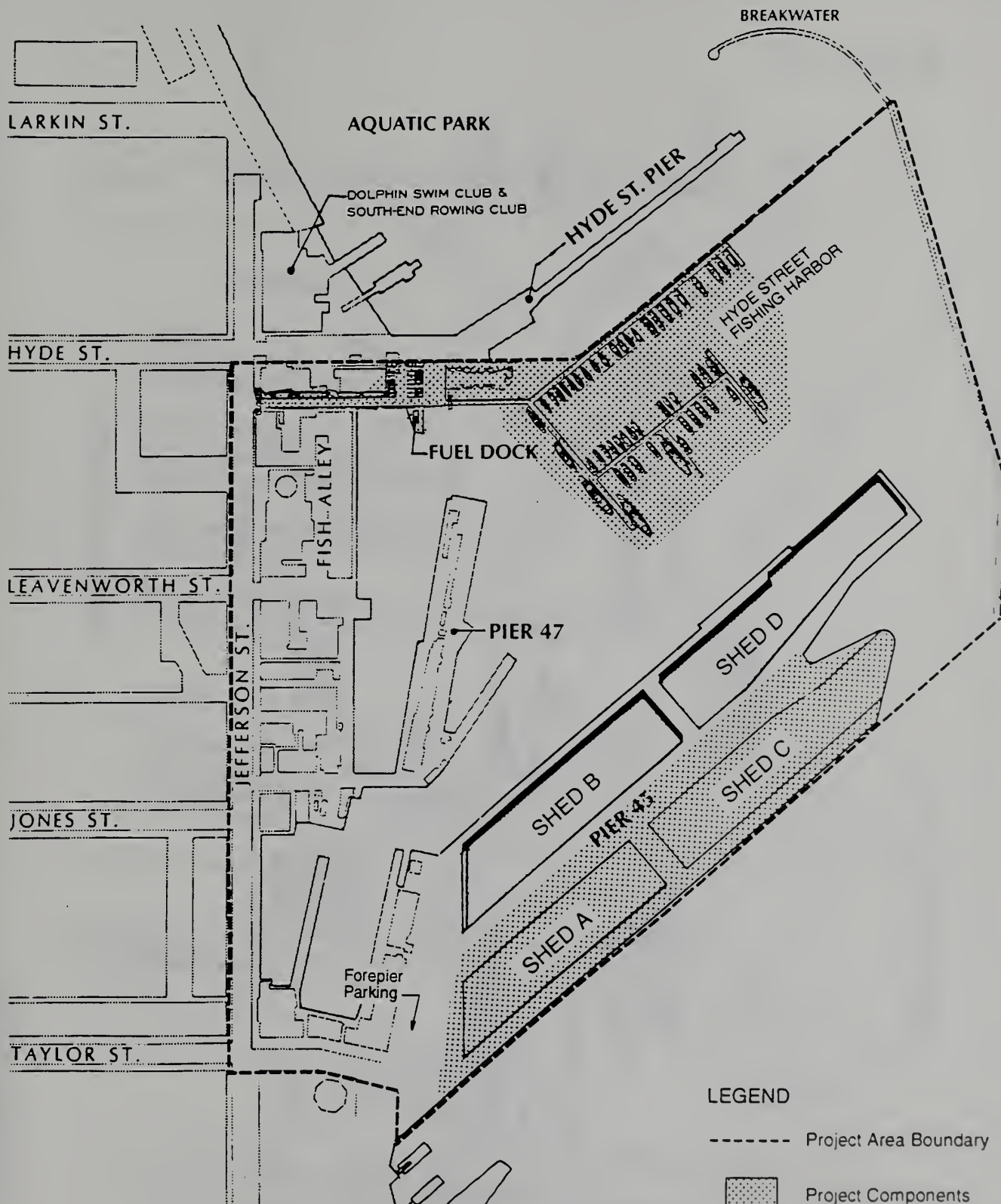
- 1) Hyde Street Fishing Harbor;
- 2) Harbor Service Facilities; and
- 3) Pier 45 / New Uses in Sheds A and C.

HYDE STREET FISHING HARBOR

The Hyde Street Fishing Harbor component of the proposed project would include reconstruction of the east side of Hyde Street Pier and construction of a new Hyde Street Fishing Harbor with space for 60 boats (see Figure 6). The proposed 60 berth harbor would increase the boat lease space in the harbor area to a total of 176 boats (116 spaces exist in the inner and outer harbor). Some fill, as well as dredging and pile driving, would be necessary to create the floating berths and supporting facilities. Permits and approvals required for dredging, pile driving and placement of fill are outlined below.

Reconstruction of the east side of Hyde Street Pier would include the removal and relocation of the existing rock fill and replacement of the existing timber pier structure with concrete piles. Approximately 22,723 square feet of fill/cover in the Bay and about 9,475 square feet of fill on the shoreline would result from reconstruction of the Pier and new berths, (as shown in Table 3, below).

The Hyde Street Fishing Harbor berthing system would be constructed to the west of Pier 45, to the east of the Hyde Street Pier and San Francisco Maritime National Historic Park (National Maritime Park). The new berthing system would consist of 40 permanent floating berths with separating floats (about 17,700 square feet of floating dock) supported by a concrete guide pile berthing system, with 53 new 24-inch square concrete piles. The dock would be designed to accommodate ten oversized vessels tied at their stern to the dock, (without separating floats) and approximately ten oversized vessels side-tied to the dock (see Figure 6). First priority for leases would be given to commercial fishing vessels in accordance with Port of San Francisco Tariff No. 3-C, Section 8-Fishing Industry.



PROJECT COMPONENTS

FIGURE NO. 5

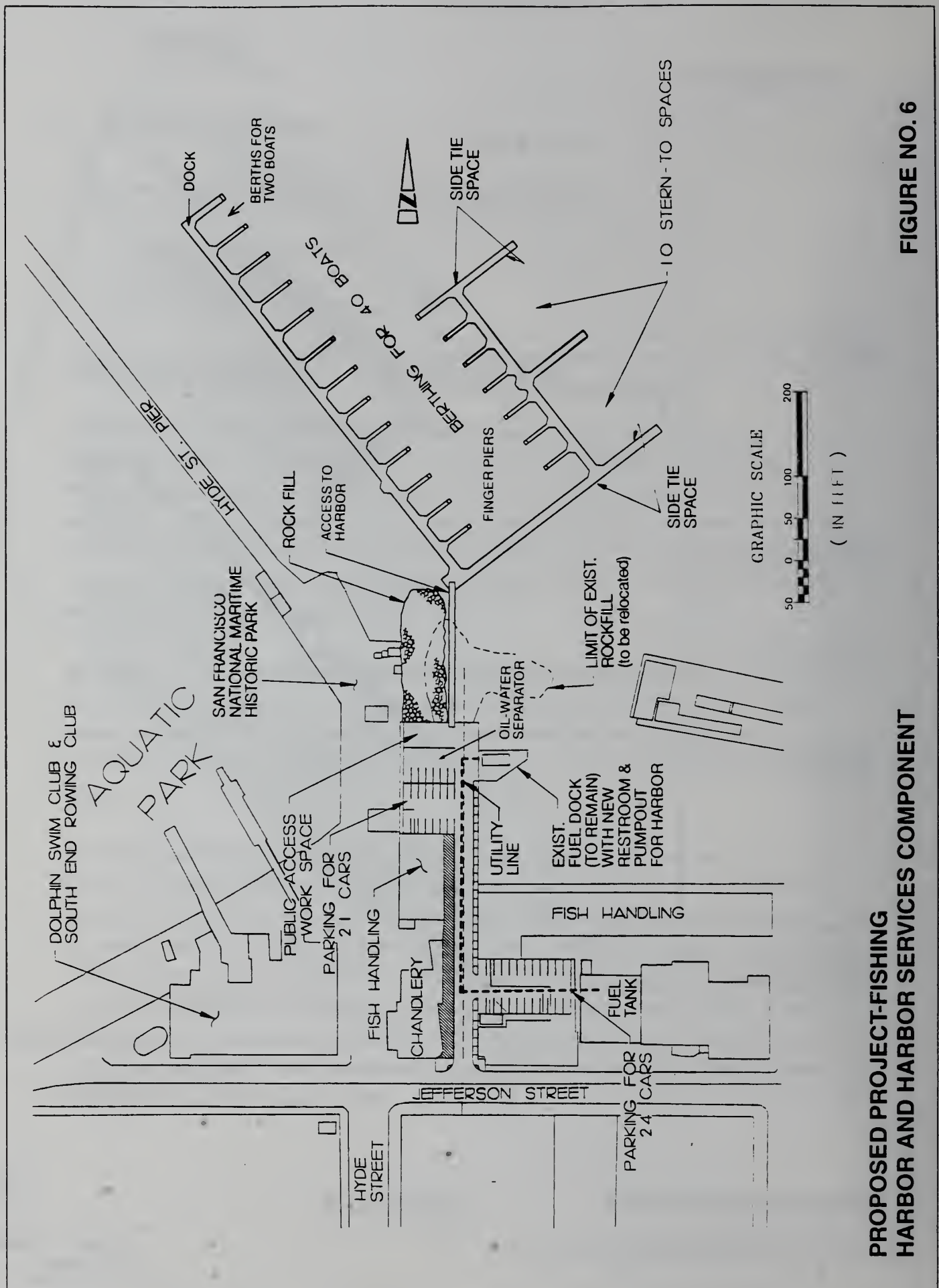


FIGURE NO. 6

PROPOSED PROJECT-FISHING
HARBOR AND HARBOR SERVICES COMPONENT

TABLE 3: BAY AND SHORELINE BAND FILL BY BCDC CRITERIA

<u>Description</u>	<u>60 Boat Proposed Project</u>
Berthing	
Floats (SF) of coverage	17,700
Piles Supporting Floating Dock (CY)	270
Pier (in the Bay)	
Pile-Supported Fill (SF)	4,875
Pile- Supported Fill Removed (SF)	(1,420)
New Pier (in the Shoreline Band)	
Coverage, Solid Fill (SF)	7,150
(CY)	715
Pile-Supported Fill (SF)	2,325
Pile-Supported Fill Removed (SF)	(760)
TOTALS*	
Coverage/Fill of the Bay (SF)	22,723
Supported by Piles (CY)	270
Coverage/Fill in the Shoreline Band (SF)	9,475
Solid Fill (CY)	715

* Does not include Fill removed of 2,180 SF

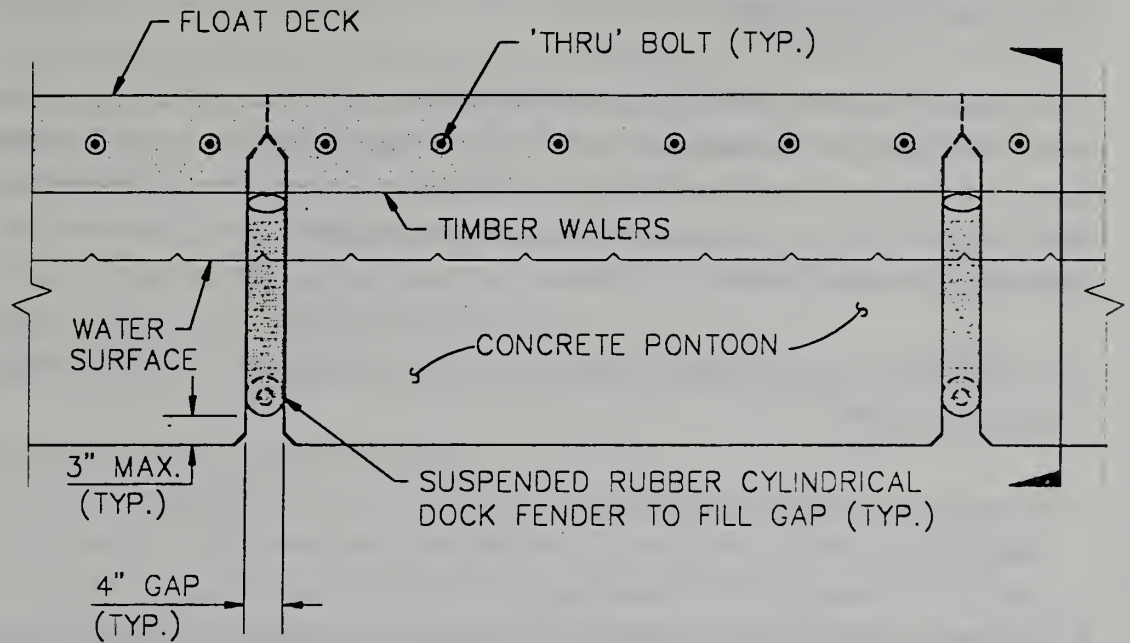
SF Square Foot of fill

CY Cubic Yards of fill

The Hyde Street Pier reconstruction including the removal and relocation of existing rockfill, and replacement of existing wood pier structure with concrete piles, the walkways, and the floating docks are considered Bay fill/cover by the Bay Conservation and Development Commission (BCDC) regulations (see Table 3 above).

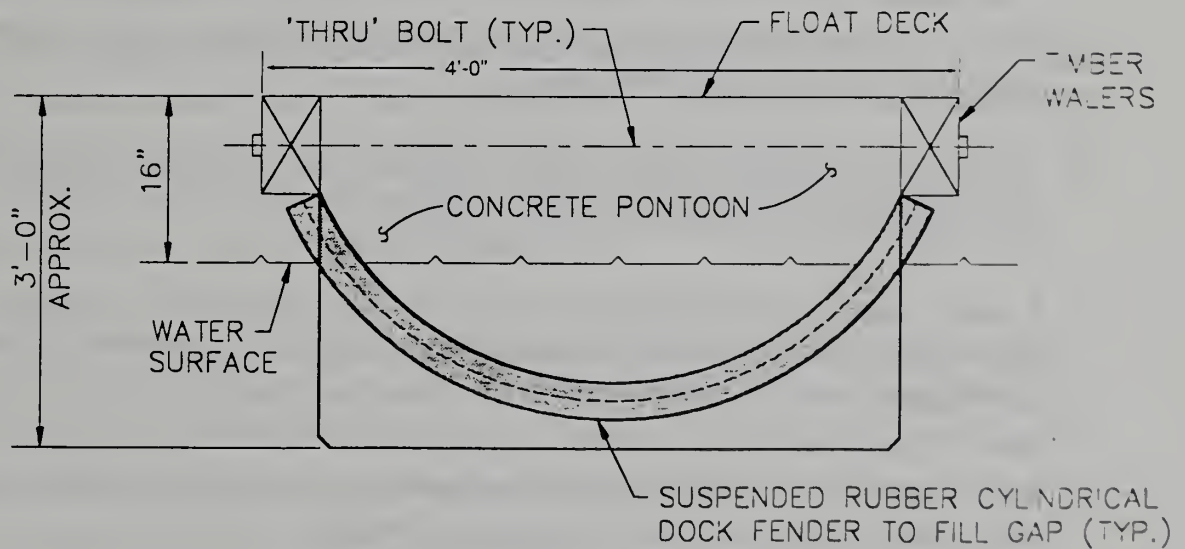
The proposed Hyde Street Fishing Harbor would include the following features:

- Berths for two boats would be enclosed on two sides by floats with encased foam pontoons that would ride slightly below the surface of the water. Double-boat berths would be 40 X 17 feet, 50 X 19 feet and 60 X 21 feet. Connecting walkways would be 4 feet wide.
- No berthing would be provided on the west side of the float closest to the Hyde Street Pier and Aquatic Park.
- The westernmost float would be fitted with a flexible "skirt" which would eliminate gaps between floats and provide a measure of water quality protection. (See Figure 7)
- A single security gate at the brow (shore end of the pier) would limit access to berth holders and harbor personnel.
- The berthing system would include lighting, electrical power, water and fire protection systems, and dock boxes for each berth.
- Impermeable surfaces would be designed to collect runoff in gutters located along the pier edge or in a central depression, to direct storm water to an oil-water separator before disposal to the Bay.



FLOAT ELEVATION (SKIMMER FLOAT ONLY)

SCALE: $\frac{3}{4}" = 1'-0"$



FLOAT SECTION

SCALE: $\frac{3}{4}" = 1'-0"$

**CROSS SECTION OF
FLOATING DOCK**

FIGURE NO. 7

HARBOR SERVICE FACILITIES

Proposed new Harbor Service Facilities would be located partially on new fill, described above under Hyde Street Pier Reconstruction. Facilities would include a work dock, vessel pump-out station, and restroom. The Harbor Master would remain in the recently refurbished space on Wharf J9, along Fish Alley. Public access for the harbor component of the project would be provided as shown on Figure 6.

- The existing fuel station building of 420 square feet, now located on a pile-supported pier, would be retained.
- A restroom of about 200 square feet would be provided near the fueling area for use by fishermen.
- The existing fuel dock area of 1,450 square feet would be provided with lighting and spill containment equipment.
- A new/replacement fuel delivery pipeline (about 140 feet long) from the seawall to the fuel dock would include automatic shut off features; a leak detection system; remote operated shutoff switch and pressure sensitive valves.
- A single security gate at the end of the pier would limit access to the dock and floating berths to permitted boat operators and harbor personnel.
- A vessel sewage pump-out station would be installed adjacent to the fuel dock area with a 20 gallon per minute (gpm) pump-out capability directly connected to the City's sanitary sewer system.
- An 40 square foot oily waste disposal facility would be provided in a clearly marked location in the working area and at an existing facility along Fish Alley.
- The dock area would have a central depression to direct storm water to an oil-water separator prior to disposal to the Bay. (See Figure 6)

- Parking for 21 vehicles (including five existing spaces which would be retained) is proposed over existing land and/or over relocated fill for use by fishermen. Additionally, 24 parking spaces would be provided in the location of the Bell Smoked Fish building at the backside of the building at 490 Jefferson. About 4,300 square feet of building structure would be demolished to make room for parking.
- Public access (3,000 square feet) would be provided at the foot of the new pier. The new berths would only be accessible to berth users.

PIER 45 / NEW USES IN SHEDS A AND C

The Port is proposing to develop uses complementary to the fishing industry on Pier 45 in Sheds A and C. Together these sheds contain approximately 140,000 square feet of ground floor area and space for a mezzanine of 50,000 square feet. They are adjacent to Sheds B and D which are renovated and leased for fish processing and fish handling. The existing uses of Sheds B and D would not change under the proposed project.

The Port is considering three alternative uses within Sheds A and C which range from 140,000 to 190,000 square feet (the latter includes development of a 50,000 square foot mezzanine area) of uses. The three alternative uses would each emphasize one of the following: a Fisheries Center; an Education Center or; a Conference Center. All three alternatives would include outdoor public access and parking, and some retail space.

The Port's preferred project for Sheds A and C is the Fisheries Center. (The other two use alternatives for Pier 45 being considered by the Port are described and evaluated in Section VII, ALTERNATIVES TO THE PROPOSED PROJECT). The Port has described a range of maximum intensity uses for the Sheds that would not be exceeded but development could occur at a lower intensity (some space may not be developed).

The purpose of the proposed Fisheries Center would be to educate the public about the fishing industry, allow observation of a working commercial fishing harbor and pier, and provide interpretation of the surrounding Bay and ocean environment. The Fisheries Center would include 25,000 square feet of Visitor Center Space, 20,000 square feet of Conference Space,

50,000 square feet of parking, 40,000 square feet of retail space, 10,000 square feet of office space and 45,000 square feet of outdoor public access space (see Figure 8). Improvements include restrooms, new partitions, plumbing and electrical systems. Following are descriptions of the Port's proposed Fisheries Center components:

Visitor Center -- about 25,000 square feet of space in Shed C would be dedicated to displays and exhibits to promote public education of the fisheries and seafood industries and the marine environment, that could include a 1,200 to 3,000 square foot interactive theater; 2,000 to 5,000 square feet of related retail space (gift shop and book store); a 2,000 to 4,000 square foot cafe or food service area.

Conference Center -- about 20,000 square feet of Shed C would be used as a meeting place for conferences and special events. The facility may be cross marketed with the area's hotels since the conference space would be larger than what is available in the area. The conference center would include a catering kitchen.

Retail Space -- about 40,000 square feet of Shed A would be used for retail. Proposed types of retail could include combined gallery and workshop space for local artisans, a theater, a bookstore, a coffee bar, a market hall featuring fresh foods and seafood products, fishing tackle sales and repairs, and recreational uses.

Office Space -- 10,000 square feet of mezzanine space in Shed C would be created for maritime related users such as fish brokers, and a fisheries data center.

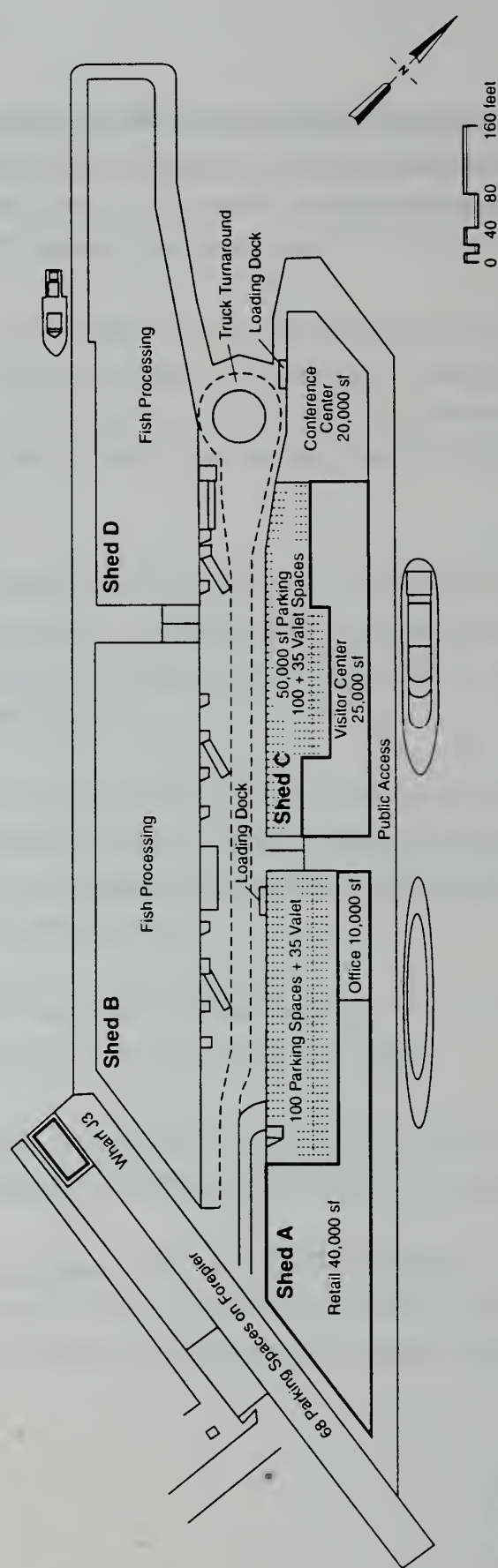
Outdoor Public Access -- 20,000 square feet of Shed A and 25,000 square feet of Shed C's pier apron would be used as a public promenade along the water's edge of Pier 45.

Parking - - 200 parking spaces -- Of the 200 spaces there would be 100 in Shed A of which 35 would be valet or tandem spaces and 100 in Shed C of which 15 would be valet or tandem spaces. The existing 68 spaces on the forepier would remain. These are permit spaces for lease tenants.

II. PROJECT DESCRIPTION
C. Proposed Project

Truck loading area -- One service bay would be located in both Sheds A and C within the valley area. No parking would be provided in the valley for Sheds A and C to minimize conflicts with the fish processors' trucks using the valley.

HYDE STREET HARBOR



FISHERIES CENTER ALTERNATIVE - PIER 45

FIGURE NO. 8

D. PROJECT APPROVALS, SCHEDULE AND COSTS

The project site is on Port property and is under the jurisdiction of the City and County of San Francisco. After completion of the environmental review process, the project would be considered by the Port for approval. The Port Commission will be responsible for approving or not approving the proposed project and obtaining all necessary permits and authorizations.

The Draft EIR will be distributed to all city, regional and state agencies and to the interested public for their review and comment. A public hearing before the City Planning Commission will be held on this Draft EIR and responses to all written and oral comments will be prepared. The EIR will be revised accordingly and presented to the City Planning Commission for certification. All city, regional and state agencies must review and consider the information contained in the Final EIR before making any decision to approve or permit the project.

In addition to Port Commission approval, various other city, state and federal agency actions and approvals would be required. The project site is within the Coastal Zone and is under the jurisdiction of the San Francisco Bay Conservation and Development Commission. The land underlying the harbor and piers is on state-owned tide and submerged lands under the jurisdiction of the State Lands Commission. In 1968 the state of California transferred the administration management and operation of Port property to the San Francisco Port Authority. While no permit would be required from the State Lands Commission the project would be reviewed by them prior to Port Commission action. Portions of the project site, as described below, are also under the jurisdiction of the Army Corps of Engineers.

Required approvals by local, regional, state and federal agencies for implementation of the proposed project are summarized below.

CITY AND COUNTY OF SAN FRANCISCO APPROVALS

City Planning Commission

The Port, as the project sponsor, must seek Conditional Use Authorization from the City Planning Commission for the non-maritime uses that may be proposed for Sheds A and C on Pier 45. Under Section 152 of the City Planning Code, two freight loading spaces meeting minimum dimensions specified under Section 152, would be required. In addition, vehicle parking would be required under Section 151 of the City Planning Code. Vehicle spaces would be required, depending on the final mix of proposed uses. Two hundred spaces are proposed as part of the project. The Provisions of the Northern Waterfront Special Use District #1 would enable the Commission to modify the amount of required parking and loading spaces (see Section 240.1 and 161(f) of the San Francisco Planning Code). At the discretion of the City Planning Commission, any potential shortfall in loading or parking proposed for the project could be waived through conditional use authorization.

On November 14, 1986, the voters of San Francisco passed Proposition M, the Accountable Planning Initiative. Proposition M establishes eight Priority Policies. These policies are: preservation and enhancement of neighborhood-serving retail uses; protection of neighborhood character; preservation and enhancement of affordable housing; discouragement of commuter automobiles, protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership; earthquake preparedness; landmark and historic building preservation; and protection of open space. Prior to issuing a permit for any project which requires an Initial Study under CEQA, and prior to adopting any zoning ordinance or development agreement, the City is required to find that the proposed project or legislation is consistent with the Priority Policies.

In November 1990, the voters of San Francisco passed Proposition H. This voter initiative mandates that a plan for the waterfront be developed and that uses of the waterfront be restricted to water oriented uses. The mandated Waterfront Land Use Plan is under development by the Port. The Port Commission would consider requirements of Proposition H and the draft Waterfront Land Use Plan in reviewing the proposed project.

The project will be reviewed by the Planning Commission and Department of City Planning in the context of applicable objectives and policies of the San Francisco Master Plan as part of considering a Conditional Use Authorization, if one is required by a proposal to include non-maritime uses. The Planning Commission may also determine an appropriate reduction in off-street parking requirements. The *Northeastern Waterfront Plan*, adopted in 1977 and last amended in 1995 as an Element of the *San Francisco Master Plan*, addresses land use at the project site and includes a Fisherman's Wharf Subarea Plan. The Plan's objectives and policies are designed to enhance economic vitality of the area, diversify land uses in the Northeastern Waterfront area while enhancing maritime and port activities, improve the area's attractiveness and spatial identity, and improve transportation and circulation in the area.

The overall goals of the Fisherman's Wharf Subarea Plan are to maintain and enhance the area's maritime character and enhance it as a center for commercial fishing; strengthen the area's attractiveness as a water-oriented commercial recreation center; and develop uses that would generate activities at times other than the existing peak period. Objective 11 is to "maintain and enhance the character of the Fisherman's Wharf area and enhance the area as a center for the commercial fishing industry." Policy 1 is to "encourage the retention and expansion of the commercial fishing and fish handling industry and businesses which provide services to the fishing fleet through construction of a new breakwater in the general area of Hyde Street Pier." As noted above, the referenced breakwater has been completed. The additional fishing facilities proposed under the project appear to respond to this policy of the *Northeastern Waterfront Plan*. However, Policy 2 of this objective states "Permit commercial office (not related to the fishing industry), hotel and residential convenience retail, institutional and accessory parking uses on Pier 45. Parking shall be enclosed within a structure". The uses proposed by the Port would preclude these uses and a Master Plan Amendment would be required if the proposed project is to be approved.

Port Commission

The Port Commission must approve the proposed project, and expenditure of funds to build, before the project could be implemented. Lease agreements for uses that might be developed would also require Port Commission approval; any lease that would exceed the amount of \$1 million per year would also require approval by the San Francisco Board of Supervisors.

The Port Commission is responsible for implementing proposed mitigation measures attached to the project.

Art Commission

Review of the proposed project would be required from the San Francisco Art Commission, which reviews proposed construction on public land.

Other City Departments

The Port of San Francisco is empowered to authorize all structural, building, electrical, utility, fire and police permits. The Department of Public Health (DPH) regulates removal of underground storage tanks and disposal of hazardous wastes. DPH would review site history and soils reports for hazardous wastes prior to issuance of a building permit for site excavation work and fuel pipeline installation pursuant to Article 20 of the Public Works Code.

REGIONAL AND STATE AGENCY APPROVALS

Bay Conservation and Development Commission (BCDC)

The entire project site is within the Coastal Zone jurisdiction of BCDC, and a permit from BCDC would be required before the project could be implemented. The permit would address the project's compliance with the McAteer-Petris Act and with policies of the *San Francisco Waterfront, Special Area Plan (April 1975 as amended) Plan Map #1*, which covers the area of shoreline in which the project is located.

BCDC would be particularly concerned with issues relating to the addition of solid fill and pile-supported fill in the Bay; potential impacts on fish and wildlife and other natural resources; the provision of Bay-oriented commercial recreation or Bay-oriented public assembly; and the provision of public access to the Bay at Pier 45. Also, BCDC would inform the Port about project compliance with Section 307 of the Federal Coastal Zone Management Act of 1972.

The Port of San Francisco currently holds the following permits from BCDC for projects at Pier 45:

- Permit No M76-69, authorizing the construction of a chapel and the placement of a Fisherman's Memorial with public access on Wharf J-3.
- Permit No. M88-63, authorizing the placement of a temporary wharfinger's office (trailer) on Wharf J-3, until such time as a permanent office is constructed on the Pier.
- Permit No. M89-94, authorizing earthquake repairs to Pier 45, including the areas beneath Sheds A, B and C.

The authorized earthquake repairs were completed in August of 1995, as previously described. The wharfinger's office was permanently located in a two-story building on Wharf J-7 along Fish Alley.

Prior to issuing a permit for the proposed project, BCDC will review: the amount of Bay fill that would result; the extent to which the project provides "maximum feasible public access" to and along the shoreline; enhancement of fishing industry uses; and provisions for public safety.

BCDC jurisdiction includes Bay waters up to the shoreline and the line 100 feet upland and parallel to the shoreline which defines the Commissions "shoreline band." The *April 1975 San Francisco Waterfront Special Area Plan* specifies uses for which fill may be permitted, including port facilities, water-related recreation, Bay-oriented commercial recreation and Bay-oriented public assembly. Limited commercial recreation facilities, such as small restaurants, can be permitted. The *1975 Plan* also includes specific policies for uses on new or replacement fill in the Fisherman's Wharf area. Appropriate uses for new or replacement fill include public access; fish processing; limited commercial recreation; and maritime and small-boat docking facilities, including tour boats and ferries.

Permitted uses on new or replacement fill at Hyde Street Pier include fish processing, limited commercial recreation, public access, replacement of existing bay-oriented commercial

recreation, and maritime. The San Francisco Waterfront Plan, *Special Area Plan* (1975) Hyde Street Pier Policy 1 states:

- "1. The reconstruction or improvement of the east side of Hyde Street Pier for fishing and fish processing should be permitted. It need not be rebuilt to its present configuration, but any new fill should be the minimum necessary. (page 15)"

Permitted uses on new or replacement fill at Pier 45 include public access, boat slips and maritime. *Special Area Plan* Policies 2 and 3 for Pier 45 state:

- "2. Development of Pier 45 should provide maximum public access at pier level. The public access should be an integral part of the pier development and should create varied and interesting open spaces for public access, including visual access, to the Bay, particularly at the end of the pier and along pier edges.
3. All areas devoted to public access on Pier 45 should be protected from the wind to the maximum extent feasible without unnecessarily blocking views. (page 17)"

Special Area Plan policies for Pier 45 also state that if reuse of Pier 45 requires new pilings to be driven into the water, uses over the pilings would have to be water-oriented. Proposed uses for Pier 45 under the project may not be consistent with BCDC *Special Area Plan* policies if public access provisions do not meet the above criteria or if uses over new pilings (driven during earthquake repairs) are determined to be non-water-oriented. Section 66605 of the McAteer-Petris Act provides that "further filling of San Francisco Bay should be authorized only when public benefits from fill clearly exceed public detriment from the loss of the water areas and should be limited to water-oriented uses."

California State Lands Commission

In 1968, the State of California, in accordance with the Burton Act and the accompanying Transfer Agreement, transferred the administration, management and operation of Port property to the San Francisco Port Commission. The Port Commission holds these lands in trust under

the jurisdiction of the State Lands Commission, which determines that the use of Port lands meets public trust provisions. Uses of these lands are limited to waterborne commerce, navigation, fisheries, open space, recreation, or other recognized public trust purposes. No permit would be issued by the State Lands Commission for the proposed project; however, the Port Commission must keep State Lands Commission apprised of its plans, particularly regarding uses proposed for Sheds A and C on Pier 45.

Regional Water Quality Control Board

The RWQCB is responsible for development, enforcement and implementation of state water quality standards as set forth in the Water Quality Control Plan for the *San Francisco Bay Basin (known as the Basin Plan)*. The RWQCB would therefore be concerned with the potential changes in the water quality to San Francisco Bay resulting from the proposed project. Under powers delegated by the U.S. Environmental Protection Agency and the State Water Resources Control Board, the RWQCB would also provide water quality certification for disposal of project-related dredge spoils.

California Department of Boating and Waterways

The California Department of Boating and Waterways would not issue any permits for the proposed project. It would review and comment on proposed design and operation in terms of consistency with State Harbor Standards. It is providing major funding for the Harbor's development.

FEDERAL AGENCY APPROVALS

U.S. Army Corps of Engineers

Prior to project implementation, a permit would be required from The Army Corps of Engineers for proposed dredging, filling and new structures in navigable waterways. The Army Corps of Engineers has jurisdiction over fill, dredging and disposal of dredge spoils under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. All proposed work and/or structures extending bayward of the line on shore reached by mean high water of tidal waters must be authorized by The Army Corps of Engineers under Section 10.

U.S. Coast Guard

The U.S. Coast Guard's primary responsibility is to preserve and enhance the navigability and safety of navigable waters of the United States. The Coast Guard would not issue any permits for the project, but could review and comment on proposed design and operation of the harbor in terms of its potential effect on navigation and safety in adjoining waterways.

III. ENVIRONMENTAL SETTING

A. LAND USE, ZONING AND PLANS

As described below, and at the beginning of Section IV, Land Use and Zoning were among the issues determined as a result of the Initial Study to require no further discussion in this Environmental Impact Report (EIR). The information on land use and zoning in this subsection is included to orient the reader to land use in the project vicinity. The proposed project would require an amendment to the Master Plan. This amendment, and compatibility with existing plans and policies is discussed below.

LOCAL AND REGIONAL SETTING

The site of the proposed project is on San Francisco's northern waterfront within the Fisherman's Wharf area. This area encompasses approximately 374 acres of land and water generally bounded by Pier 35 on the east; Aquatic Park on the west; the Pier Head Line in San Francisco Bay on the north; and North Point, Bay and Francisco Streets on the south. About 175 acres of the Fisherman's Wharf area are land (including piers) and the rest are water. A majority of the land area is under City Planning or Port of San Francisco jurisdiction, and roughly 10 percent is under U.S. National Park Service jurisdiction. Water areas within the Fisherman's Wharf area are under Port and U.S. National Park Service jurisdictions.

Historically, the Fisherman's Wharf area was a center of fishing- and maritime-related industries such as boat repair, maritime equipment supply, and fish processing and canning. Although much of its development since the mid-1960s has been tourist-serving, Fisherman's Wharf still has the largest concentration of fish distributors and brokers on the west coast and is the center of the San Francisco Bay Area's fishing industry. Within the San Francisco Bay region, Fisherman's Wharf is advantageously located for the fishing industry due to its proximity to the Sacramento River Delta, the Pacific ocean via the Golden Gate, and major regional seafood markets.¹

¹ Fisherman's Wharf Harbor Feasibility Study, Moffatt & Nichol, Engineers, et al, June 1, 1988.

Fisherman's Wharf Area Uses Under Port Jurisdiction

The portion of the Fisherman's Wharf area under Port jurisdiction includes piers, shoreline, waterfront extending bayward to the U.S. Pier Head Line, the underground seawall along the Embarcadero Roadway, and seawall lots adjoining the Embarcadero. The Port jurisdiction area includes a mix of commercial maritime, fishing-related and tourist-serving retail and restaurant uses. At Pier 39, a specialty retail/restaurant complex developed in the late 1970's, is a marina with 350 berths for recreational boats. The Pier 39 marina, within a mile of the project site, has two vessel pump-out stations and a boat that provides pump-out services to vessels in the harbor. Ten live-aboards are allowed to berth at the Pier 39 marina.

In addition to Pier 39, several other concentrations of tourist-serving commercial development are in the portion of the Fisherman's Wharf area under Port jurisdiction. These are at the north end of Taylor Street and along the north side of Jefferson Street west of Mason Street, adjacent to the project site. Other prominent activities on nearby Port properties include the Pier 39 parking garage, surface parking on the Triangle area adjacent to Pier 45 and on Piers 43 and 43-1/2, and tourist-serving ferry facilities along the waterfront between Pier 41 and 45. On Pier 43, adjacent on the east to Pier 45, is the Red and White Fleet tourist boat berth.

Fisherman's Wharf Area Uses Under U.S. National Park Service and San Francisco Recreation and Park Department Jurisdiction

Areas adjacent to the project site to the west are under San Francisco Recreation and Park Department and National Park Service jurisdiction. Principle uses include:

- San Francisco National Maritime Historical Park on Hyde Street Pier, leased by the U.S. National Park Service from the Port of San Francisco and used to moor historic ships and boats;
- Aquatic Park, a 10.7-acre public swimming and recreation area under the jurisdiction of the U.S. National Park Service;
- Municipal Pier, a public fishing spot under the jurisdiction of the U.S. National Park Service;

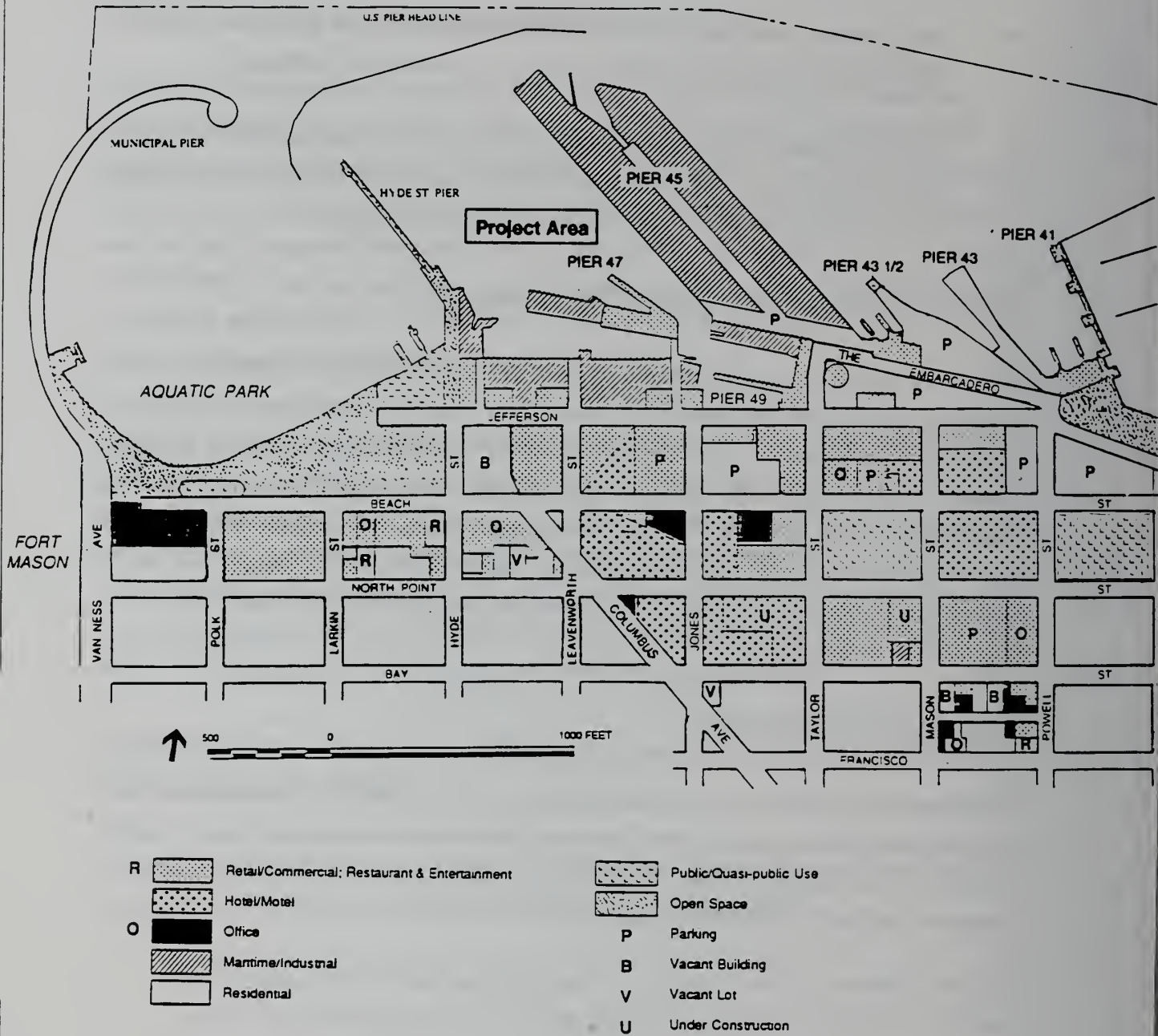
- San Francisco Senior Center and the Maritime Museum, housed in the former Aquatic Park Bathhouse under the jurisdiction of the U.S. National Park Service; and
- The private Dolphin and South End Swimming and Rowing Clubs, adjacent to Aquatic Park and Hyde Street Pier (these Clubhouses are under jurisdiction of the San Francisco Recreation and Park Department on land zoned P - Public Use).

Fisherman's Wharf Area Uses Under City Planning Jurisdiction

In the area under City Planning jurisdiction which surrounds the project site, principal land uses are hotels, specialty retail/restaurant complexes, food service, and entertainment establishments. Commercial developments in the Fisherman's Wharf area include hotels, North Point Shopping Center, Cost Plus Imports retail store, and three specialty retail/restaurant complexes (Ghirardelli Square, the Cannery and the Anchorage). Residential and public infrastructure uses include the 514-unit North Point Apartments, the 229-unit North Beach Place public housing project, the San Francisco Municipal Railway (MUNI) Kirkland Bus Yard, and the North Point Water Pollution Control Plant (see Figure 9).

EXISTING PROJECT SITE USES

Within the larger Fisherman's Wharf area, the project site is bounded by a breakwater and the San Francisco Bay to the north, the San Francisco Maritime Park-Hyde Street Pier and Aquatic Park to the west, Jefferson Street to the south, and Taylor Street to the east (see Figure 2, Section II, PROJECT DESCRIPTION, page 35).



**GENERALIZED LAND USE
IN PROJECT AREA**

FIGURE NO. 9

Project Site Fishing and Maritime/Industrial Uses

Although fishing-related activities and other distribution, transportation, and industrial uses have declined in the Fisherman's Wharf area, what remains of these uses is concentrated in the area known as the Working Wharf: Piers 45, 47 and 49, Fish Alley (Seawall Lots 302 and 303), and the adjacent water and berthing space. The Working Wharf is a fish distribution center for the San Francisco Bay Area and source of seafood for Wharf area restaurants and sidewalk crab stands. Current types and levels of fishing-related activities are described in more detail in the PROJECT DESCRIPTION; as noted, about three million pounds of fish were landed at the Wharf in 1993. Fish are also brought in by truck overland from the airport and from other ports to process and trade. Some of this trading currently takes place during the early morning hours from trucks parking along Jefferson Street near Fish Alley. This truck trading activity may relocate to the "valley" area on Pier 45 and to the parking triangle adjacent to Pier 45. Fish Alley comprises a dense assortment of fishing industry-related uses as well as the abandoned Bell Smoked Fish building (approximately 4,300 square feet). The Bell Smoked Fish building would be demolished and replaced by surface parking for fishermen under the proposed project.

Prior to the 1989 Loma Prieta earthquake, as described in the PROJECT DESCRIPTION, uses in and adjacent to the four Pier 45 sheds included both fishing-related and other uses. Sheds B and D were used primarily for fish processing and handling, and parking for fishermen; these uses were displaced because of earthquake damage and are returning to the repaired and upgraded sheds. No additional changes to Sheds B and D are proposed as part of the project.

In addition to fish processing and distribution activities, the Fisherman's Wharf area contains harbor service facilities needed to support working fishing vessels. Proposed for expansion and improvement as part of the project, these facilities include docks and vessel berthing space, ice, fuel and other supplies, and waste disposal facilities.

Other Project Site Uses

In addition to fishing-related uses, the Working Wharf area contains a mix of other uses such as tourist-serving retail, restaurant and entertainment; office; recreation, open space and public

access; and transportation and parking. The tourist-serving uses within the project site are concentrated along Jefferson Street, but restaurant uses also are on Pier 47, which separates the Inner and Outer Lagoons.

Sheds A and C, totaling about 140,000 square feet on the ground floor (plus about 50,000 square feet of potential mezzanine space) on the east side of Pier 45, were partially vacant and contained a mixture of uses prior to the 1989 earthquake. These uses included support space for ferries and other vessels, office space for area merchants, space for special events, and vehicle parking. The "valley" between sheds A/C and B/D, and the space landward of the sheds, are also used for vehicle access and parking.

SAN FRANCISCO ZONING AND PLANS

The City Planning Code, which incorporates by reference the City's Zoning Maps, governs permitted uses, densities and the configuration of buildings within San Francisco. Permits to construct new buildings (or to alter or demolish existing ones) may not be issued unless either the proposed action conforms to the Planning Code, or an exception is granted pursuant to provisions of the Code. Entitlements, such as conditional use authorizations, are the province of the City Planning Commission. On Port property, building permits are issued by the Port.

The project site is in a C-2 (Community Business) use district and a 40-X height and bulk district, and Northern Waterfront Special Use District No. 1. In a C-2 district, professional and business offices, retail business and personal services, residential and hotel uses are permitted as principal uses. The 40-X height and bulk district, which controls San Francisco's entire Northern Waterfront area, allows a maximum height for buildings of 40 feet above the street, and does not limit building bulk. The proposed project would not conflict with any C-2 or 40-X district regulations.

Provisions of the Northern Waterfront Special Use District No. 1, described in Section 240.1 of the City Planning Code, supersede those of the C-2 District. The purpose of the Special Use District is to address the waterfront's special uses, traffic, and parking issues, and to protect its

distinct maritime character from adverse adjacent development. The applicable provisions of Section 240.1 state that conditional use authorization from the City Planning Commission is required for allowable uses other than "waterborne commerce and navigation, and industrial, commercial and other operations directly related to the conduct of waterborne commerce or navigation." The project would therefore require conditional use authorization if non-maritime-related uses (meeting facilities, retail, food service) are included. The project would also require an amendment to the Northeastern Waterfront Area Plan of the Master Plan of the City and County of San Francisco which designates hotel, commercial office and residential uses on Pier 45.

Formal consideration by the Port Commission of any of the alternative uses proposed for Pier 45 Sheds A and C (Education Center, Conference Center or Fisheries Center), could require Planning Commission review to determine if the proposed uses can be considered maritime-related and if not, whether conditional use authorization should be granted. If commercial or retail uses were included, off-street loading and parking spaces in accordance with C-2 district regulations would apply. In making its determination, the Planning Commission would also take into consideration the directives of Proposition H, as passed by City voters in November, 1990. This voter initiative mandates that a plan for the waterfront be developed and that uses of the waterfront be restricted to water-oriented uses until such time as the plan is approved.

CURRENT AND PROBABLE FUTURE PROJECTS IN THE PROJECT VICINITY

Underwater World Aquarium at Pier 39

The Underwater World Aquarium at Pier 39 has been under construction since 1990 and is scheduled for completion in 1996. The 48,200 square foot facility includes a public lobby and circulation space, a book shop, office and staff space, exhibit area, a large (9,500 gsf) tank, a tidal pool, tank service area and ancillary space. The project also includes expansion of the existing Pier 39 parking garage by 120 spaces and has caused 400 spaces of the AMPCO parking garage to be opened for public use on weekends.

Port of San Francisco (Draft) Waterfront Land Use Plan

The project site is within the Fisherman's Wharf Subarea of the Port's Waterfront Land Use Plan Area. Not yet adopted, this plan proposes a variety of uses on selected "opportunity sites" in the plan area. Figure 10 shows the generalized land uses in the Fisherman's Wharf subarea. The Proposed Land Use Plan would amend Policy 2 (Objective 11) which specifies uses for Hyde Street Pier and Fish Alley, to permit other maritime and non-maritime adaptive uses of Fish Alley facilities if there is insufficient fishing industry demand and would also create a new policy to address Pier 45 separately from Hyde Street Pier and Fish Alley. The new policy would revise the list of land uses encouraged for this facility to instead give priority to fishing industry uses in Sheds B and D of Pier 45, and permit maritime offices; retail, research, educational assembly and entertainment and institutional uses; parking; and visitor centers compatible with the fishing industry in Sheds A and C. Environmental review of the Waterfront Land Use Plan will include a general discussion of potential cumulative impacts of the proposed Hyde Street Harbor and Pier 45 project.

B. WATER QUALITY

This section summarizes portions of the *Water Quality Study for Fisherman's Wharf Hyde Street Harbor & Pier 45*¹ which was prepared to address water quality conditions in the project area.

This section describes the following: the water quality regulatory framework; the physical conditions affecting water quality; existing water quality conditions in the project area based on results of water quality sampling conducted in the project area in May 1995; a public health and marine biota evaluation of existing water quality; a statistical evaluation of the bacteriological water quality; and results of previous water quality samplings.

WATER QUALITY REGULATORY FRAMEWORK

Regulatory standards for water quality in San Francisco Bay are established by the *Water Quality Control Plan for the San Francisco Bay Basin* (known as the "Basin Plan"), which is developed and implemented by the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB).² The Basin Plan specifies beneficial uses of receiving waters, water quality objectives imposed to protect the designated beneficial uses, and strategies and schedules for achieving water quality objectives. It includes narrative and numerical objectives designed to provide protection for all designated and potential beneficial uses in San Francisco Bay. The RWQCB is also responsible for permitting waste discharges and implementing monitoring programs for pollutant effects. For example, as required by the RWQCB, the Port has in place a Stormwater Pollution Prevention Plan and Best Management Practices plan for its facilities and it includes tenants such as the fish processors on Pier 45.

In 1993, the RWQCB initiated a Regional Monitoring Program for the San Francisco Estuary,

¹ Orion Environmental Associates, et. al., 1996. *Water Quality Study for Fisherman's Wharf Hyde Street Harbor & Pier 45*. Prepared for the Port of San Francisco and the San Francisco Planning Department. January 1996. Available for review at the Planning Department, 1660 Mission Street, in the project file #93.574E.

² California Regional Water Quality Control Board, San Francisco Bay Region, 1986 and subsequent amendments. *Water Quality Control Plan, San Francisco Bay Basin Region (2)* and 1995 Basin Plan Amendments. The Basin Plan was originally adopted and approved in 1986 and has been subsequently revised and amended a number of times. The most recent updated amendments were adopted by the RWQCB on June 21, 1995 and approved by the State Water Resources Control Board on July 20, 1995. Final approval by the State Office of Administrative Law and the U.S. Environmental Protection Agency is expected in early 1996.

which focuses on pollutant concentrations in water, sediment, and tissues, and their potential effects at selected stations in the Bay and estuary.³ The purpose of the program is to evaluate the effectiveness of RWQCB water quality programs in meeting Basin Plan objectives including protection of the beneficial uses of the Bay. The program is establishing a database on water quality and sediment quality in the estuary, particularly with regard to toxic and potentially toxic trace elements and organic contaminants. Data from the Regional Monitoring Program at the two stations closest to the project area (Richardson Bay and Yerba Buena) are used in this report as an indication of background concentrations of chemicals found in the Bay.

Under the federal Clean Water Act, the U.S. Environmental Protection Agency, Region IX (EPA) also has jurisdiction over water quality in San Francisco Bay. The EPA is currently in the process of developing a comprehensive set of receiving water quality criteria, as required under the federal Clean Water Act, that is expected to be imposed on the State of California in the near future. The new criteria would be an amendment to the 1992 National Toxics Rule which promulgated numeric water quality criteria for toxic pollutants. The National Toxics Rule includes aquatic life water quality criteria for metals, and there is ongoing discussion as to the appropriate chemical form for establishing criteria for these metals (see discussion below). In May 1995, the EPA issued metals criteria for aquatic life which reflect EPA's current policy for setting water quality criteria for metals. This interim final rule, effective April 15, 1995, established metals criteria that are protective of aquatic life and are intended to approximate the fraction of waterborne metals biologically-available to aquatic organisms.⁴

Dredging activities, such as those associated with the proposed project, could affect water quality and are regulated by the U.S. Army Corps of Engineers (COE) as well as by the RWQCB. The COE has jurisdiction over issuance of permits for dredging activities affecting navigable waters as well as regulating diking, filling, placement of structures or other work in these waters. Under Section 404 of the Clean Water Act, the COE has authority to issue permits for discharge of dredged or fill material into inland and near coastal waters. Applicants for permits are

³ San Francisco Estuary Institute, 1994. 1993 Annual Report, San Francisco Estuary Regional Monitoring Program for Trace Substances. December 1, 1994.

⁴ Federal Register. 40 CFR Part 131, Water Quality Standards, Establishment of Numeric Criteria for Priority Toxic Pollutants, May 4, 1995.

required to satisfy several conditions intended to prevent "unacceptable adverse effects" on the aquatic environment. Dredging activities are also within the purview of the RWQCB, which must verify that a dredged material discharge will not violate water quality standards. The RWQCB must grant Water Quality Certification for dredging and disposal activities in the San Francisco Estuary. Decisions to grant Water Quality Certification are based upon assessment of the potential for dredging and dredged material disposal to result in violations of water quality objectives.

As part of their combined sewer overflow discharge permit requirements by the RWQCB, the City and County of San Francisco, Department of Public Works conducts bacteriological monitoring of the nearshore recreational waters (including Aquatic Park) about three times per week to assure adequate water quality for water contact recreation (e.g., swimming). The monitoring results are used by the Department of Public Works to determine if bacteria concentrations exceed safe levels for swimming. If warranted, based on the monitoring results, the department posts the beaches with signs that provide public notice of potential health hazard. Bacteriological monitoring was formerly also conducted at other locations along the City's waterfront, including the Fisherman's Wharf and Hyde Street Harbor/Pier 45 area, from 1991 to 1994. Results of recent years of sampling in the project area are discussed below under *Existing Water Quality Conditions, Coliform Sampling*.

EXISTING PHYSICAL CONDITIONS

Water quality in San Francisco Bay in the vicinity of Fisherman's Wharf and Aquatic Park is affected by a number of physical factors, including tides, currents, waves, water depth (bathymetry), circulation and flushing, and sediment quality. These factors, along with existing water quality conditions are discussed below.

Tides and Currents

There are two daily tidal cycles in San Francisco Bay, with two ebb tides (outgoing or falling tides) and two flood tides (incoming or rising tides) which are associated with two high and two low water levels each day of varying heights. Changes in winds and barometric conditions can

also cause variation in the tide level from day to day. Tidal currents in San Francisco Bay are related to the tides, though they are also affected by wind or river or stream discharges from land. Current behavior within a semi-enclosed basin, such as the project area, is influenced by a number of factors, including the size of the opening to the Bay, configuration of the breakwater, and other basin structures. The behavior of the current, in turn, influences the sedimentation and water quality characteristics within the basin by affecting circulation, flushing action and water exchange.⁵

Tidal flushing in the inner lagoons is not as good as that in the Outer Harbor and results in relatively poor water quality in those areas. Measurements of tidal current velocities were taken in 1987 at the Hyde Street Pier during the high tides and indicated that the maximum flood current speed is larger than the maximum ebb current speed. Current action within the basin is inhibited relative to the open water area and maximum current velocities of over 3 feet per second are possible in the berthing area. Water movement from currents flows from the Outer Harbor toward Aquatic Park during an ebb tide and in the reverse direction during a flood tide.

Waves

Waves in the project area may be locally generated wind waves, longer period waves generated in the Pacific Ocean, or ship-induced waves. Previous studies have determined that locally-generated wind waves are more critical on wave activity within the Fisherman's Wharf basin than longer period waves emanating from the ocean.⁶ These local wind waves are not estimated to exceed approximately 1.5 feet in height within the harbor area and would be expected to occur from the northwest. Ship-induced waves resulting from boat traffic outside the harbor have short periods and can be considered to be similar, but less critical, than locally

generated wind waves; waves generated by boat traffic within the harbor are suppressed due to restrictions on vessel speed.⁷

⁵ Moffatt & Nichol Engineers, AGS and Kwan Henmi Architecture, 1988. Fisherman's Wharf Harbor Feasibility Study. Prepared for the Port of San Francisco, California, June 1, 1988.

⁶ Moffatt & Nichol Engineers, AGS, and Kwan Henmi Architecture, 1988, III-10. Fisherman's Wharf Harbor Feasibility Study. Prepared for the Port of San Francisco, California, June 1, 1988.

⁷ Moffatt & Nichol Engineers, AGS, and Kwan Henmi Architecture, 1988. Fisherman's Wharf Feasibility Study. Prepared for the Port of San Francisco, June 1, 1988.

Bathymetry

The Port periodically conducts a survey of water depths (bathymetric survey) as part of its maintenance dredging program. A bathymetric survey was also conducted with regard to the construction of the breakwater. A survey conducted in January 1991 indicated that the water depths in the Inner Lagoon range from 8 to 10 feet (below mean lower low water, MLLW) at the landward side of the lagoon and from 6.9 to 12.2 feet at the side nearest Pier 45. In the Outer Lagoon, the water depths ranged from 10.8 to 14.6 feet (MLLW). In all cases, water depth was greater at the entrance to the lagoon than in the inner part of the lagoons. A bathymetric survey performed in July 1994 showed that between Pier 45 and the Hyde Street Pier, the depths range from 11 to 19 feet below mean lower low water.⁸

Circulation/Flushing

In 1988, the Port examined the effects of an existing tidal culvert on water quality in Fisherman's Wharf Harbor.⁹ The tidal culvert, shown on Figure 3, PROJECT DESCRIPTION, consists of a 3.8- by 6.0-foot concrete rectangular box culvert that was constructed as part of Pier 45 in the late 1920s. Measurement of currents at the culvert entrance showed that currents were up to 1.2 feet per second into the Inner Lagoon and 1.4 feet per second out of the Inner Lagoon, predominantly due to tides.

A numerical model was used to estimate the effect of the culvert on the residence time of water in the Inner Lagoon as a measure of flushing in the lagoon. Residence time is defined as the average time required for complete exchange, or renewal, of water in an enclosed area. The results indicated that for average tidal conditions, the residence time in the Bay east of Pier 45 is 1 to 2 hours, compared to 1 to 2 days and 2 to 3 days for the Inner and Outer Lagoons, respectively. The actual residence times varies for different tidal conditions, decreasing during spring tides (the highest and lowest tides) and increasing during neap tides (lowest level of high

⁸ Advanced Biological Testing, 1995. Results of Chemical, Physical and Bioassay Testing of Sediments Proposed for Maintenance Dredging at Fisherman's Wharf, Port of San Francisco. January 12, 1995. Available for review at the Planning Department, 1660 Mission Street, San Francisco in project file 93.574E

⁹ Moffatt & Nichol Engineers, 1988. Investigation of the effects of a tidal culvert on water quality in Fisherman's Wharf Harbor, Port of San Francisco. Moffatt & Nichol Engineers, Walnut Creek, CA. November 1988.

tide). Water quality conditions in the Outer Harbor area are and have been generally better than water quality in the Inner and Outer Lagoon areas due to greater tidal flushing action.

Sediment Quality

Chemical and physical analyses and bioassays were conducted on sedimentary material at Fisherman's Wharf in 1994 in the Outer Lagoon and Outer Harbor areas (near Pier 47) as part of a maintenance dredging project. The data indicated that the concentration of chemicals in the sediments from this area were generally within normal limits for San Francisco Bay sediments (see Table 2, Appendix B). The samples were analyzed for a wide range of metals, pesticides and other organic compounds, and only the following chemicals were detected in the sediment: antimony, cadmium, chromium, copper, lead, mercury, nickel, silver, zinc, polynuclear aromatic hydrocarbons (PAHs), organic tin compounds, phthalates, sulfides, total recoverable petroleum hydrocarbons, and total organic carbon. The results of the physical testing indicated that the sediments in the project area were predominantly finer grained sediments of clay and silt (about 80 percent), with a lower percentage of coarser grained sand compared to sediments from a reference site near Alcatraz which had about 2 percent fine particles. The bioassay tests indicated that limiting permissible concentrations were not exceeded in the toxicity testing.¹⁰

EXISTING WATER QUALITY CONDITIONS

Water quality sampling was conducted by Woodward-Clyde Consultants on May 10, 1995 in the vicinity of Pier 45 and the Hyde Street Harbor to provide water quality information for comparison with previous sampling data and for an indication of existing conditions.¹¹ The sampling plan and results are summarized below.

The purpose of the water quality sampling was to: (1) assess water quality in the project area

¹⁰ Advanced Biological Testing, 1995. Results of Chemical, Physical and Bioassay Testing of Sediments Proposed for Maintenance Dredging at Fisherman's Wharf, Port of San Francisco. Prepared for Port of San Francisco, January 12, 1995. Available for review at the Planning Department, 1660 Mission Street in the project file #93.574E.

¹¹ Woodward-Clyde Consultants, 1995. Hyde Street Harbor/Pier 45 Water Quality Sampling Plan. April 27, 1995 and Woodward-Clyde Consultants, 1995, Hyde Street Harbor/Pier 45 May 10, 1995 Baseline Water Quality Results. August 21, 1995. Available for review at the Planning Department, 1660 Mission Street, in the project file #93.574E.

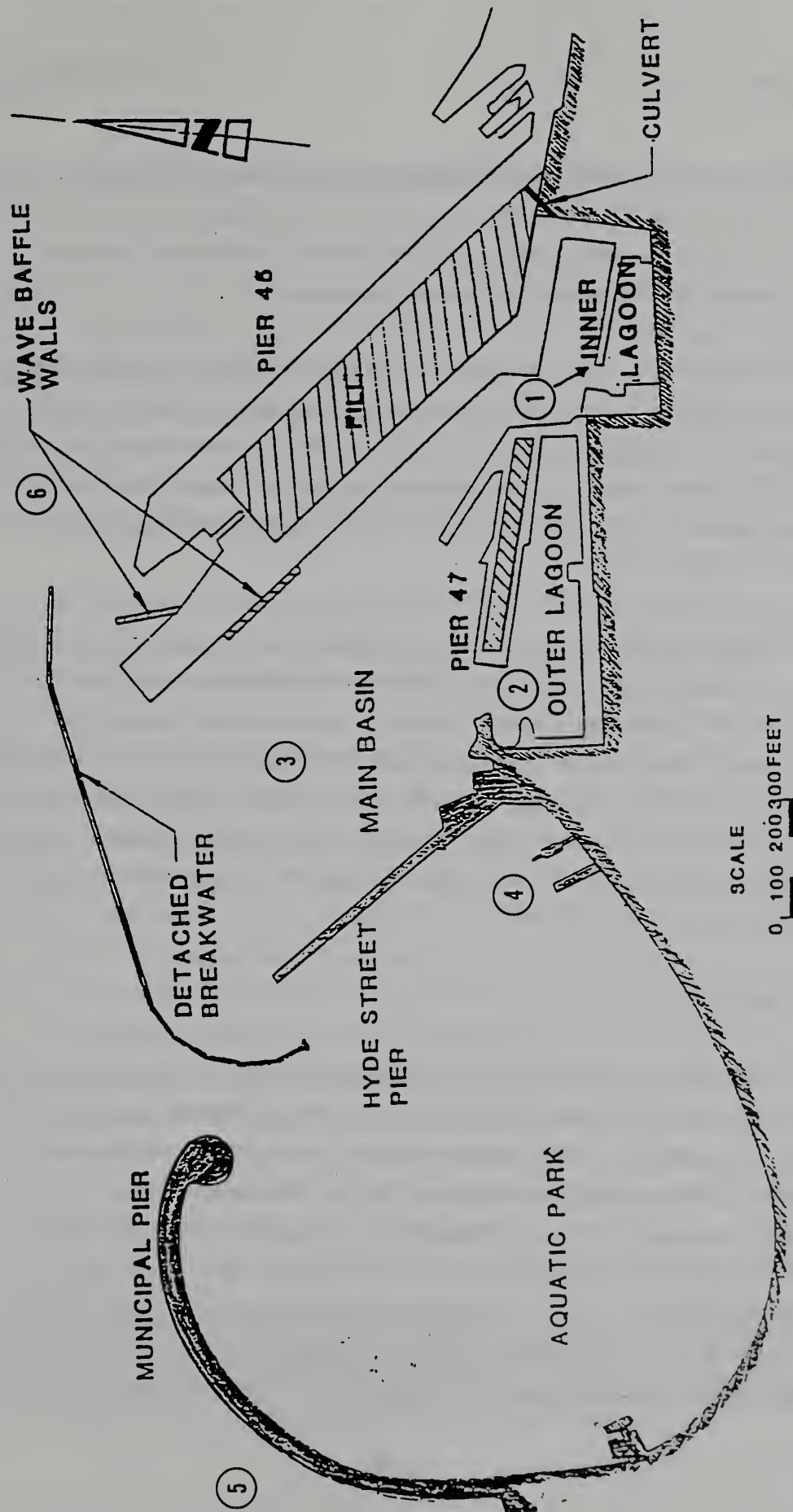
for constituents which may be affected by the proposed project and are of potential concern to those involved in water contact recreation, particularly in Aquatic Park; (2) assess water quality in Aquatic Park for constituents which may be affected by the proposed Hyde Street Harbor and Pier 45 improvements; and (3) assess water quality outside of the area of immediate concern for comparison with the project area and the Aquatic Park. The sampling plan also established a protocol for potential future single-event water quality sampling in the Fisherman's Wharf area.

Sampling Procedures

Water quality samples were collected at six stations, as shown on Figure 11. Station 1 is located in the Inner Lagoon at the end of the pier, Station 2 is located in the Outer Lagoon at the existing fuel dock, and Station 3 is in the center of the Outer Harbor (Main Basin); these three stations represent the area where water is potentially affected by the commercial fishing vessels and related activities. Station 4 is located in Aquatic Park lagoon near the swimming buoys in front of the Dolphin Club and South End Rowing Club docks; this station was selected to represent the water most often contacted by swimmers in the lagoon. Station 5, located west of the municipal pier, and Station 6, located at the harbor entrance north of Pier 45, represent an area outside the immediate area of concern and are used to determine the water quality conditions in areas subject to higher Bay flushing than the harbor (including the Inner and Outer Lagoons and the Outer Harbor) and Aquatic Park. The time and date of sampling were selected to coincide with tidal conditions which were predicted to favor accumulation of debris and other materials of concern in the Harbor and transport of these materials from the Harbor to Aquatic Park. Based on water current surveys and hydrodynamic modeling conducted by the U.S. Army Corps of Engineers (COE) before and after the breakwater construction, it appears that during an ebbing tide, the direction of water current flow is from the Outer Harbor (Main Basin) toward Aquatic Park. However, modeling conducted by the COE did not take into consideration the effect of the presence of historical ships docked along the east side of Hyde Street Pier between Fisherman's Wharf and Aquatic Park. It has been reported that the hulls of some of the ships are lying in Bay sediments.¹² Their presence at depth may impede water circulation between the Harbor and Aquatic Park. Higher concentrations of debris and other materials were

¹² Carol Brown, 1995. Meeting with Marilyn Duffey on January 17, 1995. During this meeting, it was stated that the historic ship Eureka sits on the bottom and is turned by tug boat twice yearly.

Golden Gate-San Francisco Bay Channel



WATER QUALITY SAMPLING LOCATIONS

FIGURE NO. 11

assumed to occur in the Outer Harbor following a period of minimal flushing, during which time these materials may accumulate in the Harbor without being diluted by other waters. Therefore, the time and date of sampling were scheduled to attempt to coincide with neap tides, during the period of ebbing flow when water current velocities were low.

Although locally-generated wind waves could affect water currents from the Harbor to Aquatic Park, wind conditions could not be predicted and sampling was scheduled to occur in the evening and in the morning when winds are typically slight. The wind was calm during the sampling of Stations 1 and 6. A light breeze from the northwest began during sampling at Station 2, became stronger during sampling of Station 3, and continued for the duration of the sampling at Stations 4 and 5.

Water samples were collected approximately six inches below the water surface to represent the portion of the water column that is most often contacted by swimmers as a result of the mixing that occurs during swimming. Surface sampling was not conducted because of this mixing action. Sample collection was conducted using standard, approved methods, and laboratory analysis were conducted using approved methods for most constituents and special methods for organics to provide low detection limits. Selection of water quality constituents measured was based on potential pollutants associated with Harbor activities, results of previous water quality and sediment testing, and public input.

Sampling Results

Water quality samples collected in the project area in May 1995 were analyzed for conventional parameters, bacterial indicators, nutrients, metals, polynuclear aromatic hydrocarbons, organic tin compounds, petroleum-related hydrocarbons, and organophosphorus pesticides. The results of the water quality sampling data collected on May 10, 1995 are summarized in Table 1, Appendix B, page A.32. The data indicate that the water quality in the project area does not exceed state Basin Plan water quality objectives. Similarly, the data do not exceed the U.S. Environmental Protection Agency water quality standards, with the exception of dissolved copper levels at two of the sampling locations. The quality of the water in the project area is generally within the same range as water quality data from nearby parts of San Francisco Bay

collected in 1993 as part of the Regional Monitoring Program (see Table 1, Appendix B, page A.32).

Measurements of salinity, temperature, and pH indicated similar ranges of values for all six stations. The salinity in the project area ranged from 10 to 14 parts per thousand (ppt), which is comparable to salinity measurements for the Central Bay from the Regional Monitoring Program during March 1993 (about 16 ppt which represents the wet season when freshwater outflow from the Delta is highest). Levels of total suspended solids, turbidity, and biochemical oxygen demand, which could be indicators of potential effects of stormwater runoff, fish processing waste, or tenant washdown of the pier apron, were also within similar ranges at all six stations.

The coliform bacteria measurements are used as indicators of human waste and potential presence of human pathogens or marine mammal waste. The data indicate that the Inner Lagoon, Outer Lagoon and Outer Harbor (Main Basin) had higher concentrations of coliform bacteria compared to Aquatic Park and areas outside of the breakwater. The source of coliform could be due to stormwater or urban runoff, possible illegal discharges from fishing boats, or unsupervised discharges on weekends, or from marine mammals. However, despite the differences in coliform levels measured between sampling stations, the concentrations measured at all sampling stations except for the Outer Harbor were within the public health criteria for bacteriological standards for water contact recreation; however, compliance criteria for bacteriological standards are based on sampling over a thirty-day period. This means that based on public health criteria, the water quality in the project area, except the Outer Harbor, would be considered acceptable for swimming but additional sampling would be required. The bacteriological standards for public beach or water-contact sports require that sample have a coliform levels less than 1,000 Most Probable Number per 100 milliliter (MPN/100 mL, which is a statistical measure of the number of bacterial colonies) and no single sample shall exceed 10,000 per 100 mL.¹³ The maximum coliform concentration measured was 1600 MPN/100 mL in the Outer Harbor, and all other stations were less than 1,000 MPN/100 mL. Comparison of

¹³ Title 17, Chapter 5 of the California Code of Regulations, states that the "Bacteriological standards for each public beach or water-contact sports area shall be as follows: Samples of water from each sampling station at a public beach or public water-contact sports area shall have a most probable number of coliform organisms less than 1,000 per 100 ml; provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml, and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml."

historical coliform data in the project area with other coliform data along San Francisco's waterfront is discussed further below.

The only nutrient found in the samples tested was ammonia nitrogen, which could potentially be present in stormwater runoff, fish processing waste and human waste. The concentrations measured at all stations indicate that ammonia levels were less than the Basin Plan objective for the Central San Francisco Bay.

Water samples were analyzed for both total recoverable metals and dissolved metals to enable comparison with current Basin Plan objectives and EPA's proposed interim criteria, respectively. The metals analyzed include arsenic, cadmium, chromium, copper lead, mercury, nickel, selenium, silver and zinc. Arsenic, copper, nickel and zinc were the only metals detected and were present at all sample stations. The concentrations of all of the total recoverable metals were less than the applicable Basin Plan water quality objectives for toxic pollutants for surface waters with salinities greater than 5 parts per thousand. Concentrations of "dissolved metals" in water have been determined by EPA to reflect more accurately the fraction of waterborne metals biologically-available to aquatic organisms compared to "total recoverable metals". Thus, revisions to the federal water quality standards for metals criteria were issued in an interim final rule in May 1995, and California is subject to the revised metals criteria.¹⁴ The sampling data from May 1995 at the project area indicate that, with the exception of copper, the concentrations of all dissolved metals at all stations were less than the federal saltwater dissolved metals criteria. The dissolved copper data indicated that concentrations exceeded the 2.4 microgram per liter (ug/L or part per billion) criterion at Station 1 (Inner Lagoon) and Station 4 (Aquatic Park), with concentrations measured at 3.2 and 2.8 ug/L, respectively. The saltwater copper criteria of 2.4 ug/L is still being examined by EPA, with an alternate criterion of 3.1 ug/L under consideration.¹⁵

Total petroleum hydrocarbons, either as gasoline or diesel, were not detected at any of the sampling stations, with a laboratory reporting limit of 50 parts per billion. The samples were also

¹⁴ Federal Register, Volume 60, No. 86, Thursday, May 4, 1995, Rules and Regulations. 40 CFR Part 131.

¹⁵ Federal Register, Volume 60, No. 86, Thursday, May 4, 1995, Rules and Regulations. 40 CFR Part 131.

analyzed for benzene, toluene, ethylbenzene, and xylene, which are major components of petroleum products and could also serve as indicators of contamination from vessel fueling, maintenance activities, or other sources of petroleum products, such as urban runoff. The results show none of these chemicals were detected at a reporting limit of 0.5 parts per billion, with one exception. Toluene was detected in the Outer Harbor (Main Basin) at 0.73 ug/L, which is six orders of magnitude (10^6) less than the water quality objective to protect human health. During sample collection, the field observations noted an organic sheen apparent in the Inner Lagoon (Station 1) and in the vicinity of the Outer Harbor (Station 3), but none was noted at any of the other stations.¹⁶

Compounds of organic tin (monobutyltin, dibutyltin, tributyltin, and tetrabutyltin) are commonly used as an anti-fouling agent and used in marine paints for the hulls of boats. They are known to be toxic to aquatic life at low concentrations, about one part per billion. Analysis for these compounds identified presence of tributyltin and tetrabutyltin in the Inner Lagoon (Station 1), but no organic tin compounds were detected at any of the other locations. The concentration of tributyltin measured at Station 1 was 13 nanograms per liter (ng/L or parts per trillion); this value does not exceed any water quality objectives, since none is stated in the Basin Plan, but it is higher than a value of 5 ng/L (30-day average) which, based on technical information, would be considered protective of human health.¹⁷

Polynuclear aromatic hydrocarbons (PAHs) were found in all samples at all locations at concentrations in the range of 5 to 88 ng/L (or parts per trillion). The concentrations were generally similar at all stations for all PAHs measured. PAHs are a class of organic compounds commonly formed as the result of incomplete combustion of organic materials, such as motor oil or automobile exhaust. Natural sources, such as forest fires and volcanoes, also contribute to background concentrations of PAHs in the environment. Some of the reported PAHs have

¹⁶ The sampling method used to collect water was designed to obtain samples most representative of water contacted by swimmers, which was determined to be generally an area of mixing about six inches below the water surface. Obtaining a sample of the surface micro-layer was considered, but it was determined to be less reliable than the selected method because of physical constraints (such as wind speed and water turbulence) associated with quantification of pollutant concentrations in surface films. For additional information, refer to Woodward-Clyde Consultants, Hyde Street Harbor/Pier 45 Water Quality Sampling Plan, April 27, 1995, which is available for review at the Planning Department, 1660 Mission Street, in the project file #93.574E.

¹⁷ California Regional Water Quality Control Board, San Francisco Bay Region, 1995. 1995 Basin Plan Amendments, June 21, 1995.

been identified by the U.S. EPA as carcinogenic (see below under Public Health). The Basin Plan objective for PAHs was not exceeded at any of the sampling station, and the sample results also indicate that PAH concentrations were less than the applicable EPA standards.

Concentrations of all organophosphorus pesticides were below reporting limits for samples at all stations. There are no water quality objectives or standards for this group of compounds. Organophosphorus pesticides are commonly used to control insects or other pests, and there is the potential for these compounds to be present in stormwater runoff or washdown from the pier apron; these compounds could potentially affect the marine ecology.

PUBLIC HEALTH EVALUATION OF EXISTING WATER QUALITY

A risk assessment of the May 10, 1995 sampling results in the project area was prepared and is summarized below.¹⁸ Carcinogenic risks and non-carcinogenic adverse health effects were evaluated for analytical results of samples collected at all sampling stations, with focus on Station 4, Aquatic Park, where swimming occurs. The potential chemicals of concern consisted of the following chemicals: acenaphthene, benzo(b)fluoranthene, chrysene, fluoranthene, fluorene, naphthalene, phenanthrene, pyrene, toluene, arsenic, copper, nickel, and zinc.

Arsenic was the only metal detected that is considered to be a carcinogenic compound by the U.S. EPA. The other three metals (copper, nickel, and zinc) were evaluated as non-carcinogens. The highest concentration of arsenic detected was 2.3 ug/L, which is well below the Drinking Water Standard (or Maximum Contaminant Level) of 50 ug/L. Arsenic was evaluated as both a carcinogen and a non-carcinogen.

Of the chemical compounds typically associated with fuels and gasoline (benzene, toluene, ethylbenzene and xylene, and total petroleum hydrocarbons), only toluene was detected and at only one station. It occurred in the Outer Harbor (Main Basin) at a concentration of less than one part per billion (0.73 ug/L), which is about one hundred times less than the California maximum contaminant level for drinking water of 0.15 mg/L (or 150 ug/L) and about one

¹⁸ Soma Corporation, 1995. Risk Assessment for Hyde Street EIR. September 1995. Available for review at the Planning Department, 1660 Mission Street, in the project file #93.574E.

thousand times less than the federal drinking water standard of 1 mg/L (or 1,000 ug/L). Toluene was evaluated as a non-carcinogen.

Low concentrations of various polynuclear aromatic hydrocarbon compounds (PAHs) were detected above the laboratory reporting limit in samples at all locations, in the concentration range of parts per trillion. Special laboratory methods were used to obtain the lowest detection limits. Of the eight PAHs detected above the laboratory reporting limit, two are classified by the EPA as carcinogenic compounds: benzo(b)fluoranthene and chrysene. In general, however, extensive research on the toxicological effects of individual PAH compounds has not been conducted. There are no available drinking water standards for any of the PAHs detected. The concentrations of PAHs reported by the laboratory appear to be within the range of concentrations that have been reported in potable surface and ground waters in the United States. As stated previously, PAHs are commonly formed as a result of incomplete combustion of organic materials, and sources of PAHs are pervasive in the environment, such as in automobile exhaust or forest fires.

A screening level quantitative risk assessment was conducted to evaluate the potential for adverse health effects due to potential contact with the chemicals detected in project area waters during the May 1995 sampling event. The chemicals evaluated included PAHs, metals (arsenic, copper, nickel, and zinc) and toluene. Both carcinogenic and non-carcinogenic effects of these chemicals were assessed independently. Using the results of the May 1995 sampling event and conservative assumptions regarding exposure to these chemicals while swimming in Aquatic Park, the assessment provides information relevant to the health risks associated with potential exposure to these chemicals in the harbor waters.

The results of the risk assessment indicated that the total carcinogenic risk associated with swimming in Aquatic Park is approximately equivalent to an excess cancer rate of about three cases of cancer in a population of one million. (This can also be interpreted to be a probability of about 3 in one million for an individual to contract cancer.) This estimate of risk is lower than the risk of cancer due to drinking water in San Francisco, which is about two cases of cancer in a population of 100,000 persons. The calculated risk associated with swimming in Aquatic Park is also lower than the "significant risk level" established by the Safe Drinking Water and Toxic

Enforcement Act of 1986 (Prop. 65), which is one excess case of cancer in an exposed population of 100,000 persons.

Results of the evaluation of potential non-carcinogenic adverse health effects indicated an unlikelihood for non-carcinogenic adverse health effects to occur.

MARINE BIOTA EVALUATION OF EXISTING WATER QUALITY

The previous discussion of sampling results from the May 1995 sampling event has generally been with regard to public health implications, which in most cases, provide the basis for the water quality objectives and standards. However, marine biota can also be affected by changes in water quality, and in some cases, marine organisms may be more sensitive to concentrations of some chemicals in the Bay water than humans. MEC Analytical Systems conducted a review of the 1995 sampling results with respect to potential water quality effects on marine biota and specifically those chemicals of most concern to marine organisms,¹⁹ as summarized below.

The chemicals that were sampled and analyzed for in the project area that are of potential concern to marine organisms based on the concentrations measured include copper, tributyltin, benzo(a)anthracene, and chrysene. In general, the measured concentrations of these chemicals would not be expected to be harmful to marine organisms. The potential effects of these chemicals to marine biota are summarized in Table 4, with more detailed explanation included in Appendix B of this report.

¹⁹ MEC Analytical Systems, 1995. Marine Biota Setting and Environmental Consequences of Water Quality, San Francisco Pier 45 Project. March, July and August, 1995.

III. ENVIRONMENTAL SETTING
B. Water Quality

TABLE 4. SUMMARY OF POTENTIAL WATER QUALITY EFFECTS ON MARINE ORGANISMS

<u>Chemical of Concern</u>	<u>Conc. Level May 1995</u>	<u>Sampling Location</u>	<u>Threshold Conc. for Effects</u>	<u>Comments</u>
Copper	3.2 ug/L 2.8 ug/L	Inner Lagoon Aquatic Park	4.8 ug/L	Interim EPA standard is 2.4 ug/L but is expected to be revised; no effects expected.
Tributyltin	13 ng/L	Inner Lagoon	100 ng/L	Acute toxicity at 100 ng/L, but sub- lethal effects noted at 9-20 ng/L and could occur.
Benzo(a) anthracene	<5.42 ng/L	all stations	1-2 million ng/L	Threshold for acute toxicity; no effects expected.
Chrysene	6.8 ng/L	Breakwater	1 million ng/L	Few studies but no effects expected.

Notes: ug/L = microgram per liter or parts per billion; ng/L = nanogram per liter or parts per trillion

Source: MEC Analytical Systems, Inc., 1995.

STATISTICAL EVALUATION OF BACTERIOLOGICAL WATER QUALITY

Monitoring of bacteria in surface water along the San Francisco waterfront has been conducted by the San Francisco Clean Water Program pursuant to its NPDES permit. One of the purposes of the monitoring is to determine if bacteria levels in Aquatic Park are in excess of those considered safe for water contact recreation. Excessive bacterial levels have historically occurred following combined sewage overflow events, when high rainfall amounts cause the storage and sewage treatment capacities to be exceeded and untreated sewage mixed with stormwater is discharged at various overflow points to the Bay. In the past 20 years, there have been ongoing improvements to San Francisco's wastewater treatment and conveyance system which are designed to minimize the occurrence of combined sewage overflow events.

A statistical evaluation of coliform data from Bay water sampling stations in the vicinity of Aquatic Park was conducted by SOMA Corporation using the coliform data collected by the City from September 30, 1991 to October 4, 1992.²⁰ The purpose of the study was to evaluate if coliform concentrations in the Hyde Street Harbor area west of Pier 45 are statistically correlated with coliform concentrations in the Aquatic Park swimming area. The study compared sampling locations at the foot of Leavenworth Street (in the Outer Lagoon of the project area) and at Fisherman's Wharf near the Pump Station (in the Inner Lagoon of the project area) with sampling locations at the east end of Aquatic Park shoreline, plus two control stations 1-1/2 and 2-1/2 miles west of Aquatic Park. The study included a limited evaluation of the potential influences of rainfall, tidal conditions, and fish landings on coliform concentrations.

The results of the statistical study indicated that the average coliform concentrations in the project area were significantly higher than the average concentration at Aquatic Park. However, based on the available data, no statistically significant correlation of coliform concentrations was identified between those at Aquatic Park and those at either of the two project area stations. The Aquatic Park coliform concentrations did show a statistically significant correlation with concentrations at the two control stations west of Aquatic Park. No significant correlations were

²⁰ SOMA Corporation, 1995. Statistical Evaluation Aquatic Park Coliform Data, Hyde Street Harbor EIR, San Francisco, California. April 7, 1995. Available for review at the Planning Department, 1660 Mission Street in the project file #93.574E.

identified for ebb or flood periods, nor were there correlations with the size of tidal fluctuations near the time of the sampling event. The amount of rainfall during the previous 24-hour period was significantly correlated with coliform concentrations at Aquatic Park and the control stations but not with concentrations at the project area locations. Fish and crab landings did not significantly correlate with coliform concentrations at Aquatic Park or the nearest project area station, and were inversely correlated with the station closest to Fisherman's Wharf. Based on the results of this study, it appears that bacteriological water quality in the Inner and Outer Lagoon of the project area does not affect the bacteriological water quality in Aquatic Park. In addition, the quantity of daily fish landings during this period does not appear to be related to bacteriological water quality in Aquatic Park.

PREVIOUS WATER QUALITY SAMPLING RESULTS

1989 Bendix Study

Previous water quality sampling in the project area was conducted in 1989 by Bendix for toxic chemicals.²¹ Subsurface water samples (6 inches below the surface) were collected in four locations: Outer Lagoon, Outer Harbor (Main Basin), and west and east sides of Aquatic Park. Water samples were collected three times, once each in April, May and August. It was assumed that the most extreme variations in water quality would occur after the tide had been moving in a particular direction for the maximum period of time, so most of the samples were taken in the hour prior to the change in tidal currents from incoming to outgoing tides. Samples were analyzed for priority pollutants (metals, volatile and semi-volatile organic compounds, organochlorine pesticides and PCB, organophosphorus pesticides, and chlorinated herbicides) using standard EPA methods.

Several aspects of the 1989 sampling were questioned by the public, particularly the timing of the sample events with respect to tidal and circulation conditions, since it may not have been reflective of water quality conditions which cause transport from the Hyde Street Harbor area to Aquatic Park. Most of the samples were collected one hour before the flood to ebb slack period.

²¹ Bendix Environmental Research, Inc., 1989. Fisherman's Wharf Seafood Center Water Quality Report. Prepared for the Office of Environmental Review. San Francisco Department of City Planning. November 29, 1989.

In addition, there are questions regarding the reporting limits and quality assurance procedures used in the laboratory analyses. Therefore, use of the 1989 sampling information for this EIR is limited.

Comparison of the current sampling results (May 1995) with the 1989 sampling data show some similarities. Of the metals, copper, nickel and zinc were detected during both sampling events in the Outer Lagoon and the Outer Harbor (Main Basin), but the 1989 sampling also detected mercury and silver at these locations, that were not detected in the 1995 sampling. The 1995 sampling event detected arsenic in these areas, while none was detected in 1989. The 1989 sampling analyzed a wider range of metals than the 1995 event, and trace concentrations of antimony, barium, thallium, and vanadium were also detected in 1989 but were not analyzed for in 1995. It should be noted that analytical methods and reporting limits were not comparable between the two studies.

The 1989 sampling event did not indicate any volatile organic compounds above reporting limits, including benzene and toluene. The 1995 sampling event included the analysis of only benzene and toluene in this class of compounds, and similar to the 1989 data, no benzene was detected above reporting limits. However, the 1995 data did indicate a detection of toluene in the Outer Harbor. Polychlorinated biphenyls and organochlorine pesticides were not detected above reporting limits in the 1989 data, and they were not sampled or analyzed for in the 1995 sampling event because of their previous absence and lack of correlation between these chemicals and fishing activities. Organophosphorus pesticides were analyzed at both sampling events, and two compounds were detected in May 1989 in the Outer Harbor (demeton at 29.6 ug/L and disulfoton at 13.8 ug/L) but none were detected at any location in the May 1995 sampling event. Phthalates were detected in the 1989 sampling event but were not included in the 1995 sampling because of the widespread occurrence of these common components of plastics and the low concentrations encountered in the 1989 study. No polynuclear aromatic hydrocarbons (PAHs) were detected above reporting limits in the 1989 samples, but as discussed above, some PAHs were detected at low concentrations at all locations in the 1995 samples. Results of the May 1995 sampling event appear to corroborate much of the data from the 1989 sampling event in terms of the types of chemicals present in the harbor waters, but the

more accurate sampling and analytical methods used in 1995 provide a more accurate (and current) indication of water quality conditions in the project area.

1994 Port Stormwater Sampling

Sampling was conducted by the Port of San Francisco on January 24, 1994 as part of the wet weather water quality data associated with its stormwater management protection program.²² Samples were collected along the waterfront, including one station at Pier 45 in the Fisherman's Wharf area, and were analyzed for metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium and zinc), specific conductance, pH, suspended solids, grease and oil, and ammonia. The results are generally consistent with the May 1995 sampling data, although the analytical reporting limits were much higher, particularly for the metals, and low concentrations of these chemicals could not be detected. Therefore, the results of the two sampling events cannot be directly compared.

Other Water Quality Data

As part of a site investigation/characterization report in 1990 for the former Mobil Oil Bulk Plant on Jefferson Street, Bay water in the project area was collected and analyzed for petroleum hydrocarbons.²³ Analysis of the water samples collected from the Bay at two locations revealed no detectable concentrations of total petroleum hydrocarbons as gasoline, or any benzene, toluene, ethylbenzene, or xylene. The study had indicated that there are potential sources of petroleum hydrocarbon constituents in the soil and groundwater landward of the project site, but the seawall appeared to be an effective hydrogeologic barrier, preventing migration of pollutants to the Bay. This result is consistent with the 1995 sampling results for the same constituents in the Inner and Outer Lagoon stations, the stations closest to land.

²² Port of San Francisco, 1994. Bay Receiving Waters Wet Weather Water Quality Data, Table 1. Collected January 24, 1994.

²³ Alton Geoscience, Inc., 1990. Site Investigation/Characterization Report at Former Mobil Oil Bulk Plant, 440 Jefferson Street, San Francisco, California. September 20, 1990. Available for review at the Department of Public Works, Bureau of Construction Management, 1680 Mission Street, San Francisco.

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In 1983, the U.S. Army Corps of Engineers conducted a water quality survey in the Inner and Outer Lagoons, in the Outer Harbor, and offshore prior to construction of the breakwater, but data are insufficient to compare with 1995 sampling results.

C. MARINE BIOLOGY

San Francisco Bay is segmented into the North Bay (Suisun and San Pablo Bays), Central Bay and South Bay, all which have characteristic aquatic conditions. The Central Bay includes waters bounded by the Golden Gate Bridge to the east, San Pablo Bay to the north, and is characterized by oceanic water conditions. This section describes the biota in the Central Bay that may occur at times within the project site. Plankton form the basis of the food chain. Intertidal, benthic, and fish species reflect the marine influence of the Golden Gate. Birds and mammals that utilize the Central Bay area are discussed.

PLANKTON

Plankton are organisms that live in the water column and are carried passively with water currents. Phytoplankton are photosynthetic organisms that convert inorganic nutrients into organic material and are important because of their role as primary producers. Zooplankton are nonphotosynthetic organisms that consume other organisms or organic material. The zooplankton component includes forms that are planktonic throughout their life cycle as well as eggs and larval forms of many invertebrates and fish (fish eggs and larvae often are referred to as ichthyoplankton).

Population sizes and distribution of planktonic organisms fluctuate with season, availability of light, nutrients, temperature, and other environmental parameters. Hence, the distribution and abundance of the plankton community are patchy and extremely dynamic. Generally, diatoms (phytoplankton) bloom in spring to early summer with minor peaks in the fall. A slight reduction in phytoplankton abundance occurs in middle to late summer, when dinoflagellates are dominant. Because zooplankton forage on phytoplankton, high and low zooplankton productivity coincides with phytoplankton cycles, with production in spring and early summer. Shallow-water diatoms from adjacent coastal waters are the dominant phytoplankton in San Francisco Bay in the spring; dinoflagellates and cryptomonads are numerous at other times of the year.

Calanoid copepods are abundant zooplankters throughout most of the Bay. Copepods are the

primary food for many small fish, including young striped bass.¹ Zooplankton that are commonly collected in the Central Bay include the shrimp *Nematoscelis difficilis*, *Thysanoessa gregaria*, and *Nyctiphanes simplex*, and larvae of the ghost shrimp (*Neotrypaea californiensis*).²

INTERTIDAL

Intertidal fauna are subject to environmental stress due to fluctuating temperatures and desiccation. Tidal exposure is an important factor in determining the distribution of intertidal biota. It has long been observed that animals inhabit different vertical zones of the shore according to relative lengths of exposure to air and water.

Intertidal habitat is found on the breakwater and wharf pilings near the project site. The hard substrate of the breakwater provides substantial surface area for the attachment of algae and invertebrates, which, in turn, support a diverse community of organisms including fish and birds. Pilings also support a community of hard substrate biota. Common intertidal animals in the Central Bay include barnacles, crabs, and mussels.

BENTHOS

Benthic invertebrates include infauna, which live in bottom sediments, and epibenthic macrofauna, which are larger, motile organisms that live on the sediment surface. The infauna usually is dominated, in both species diversity and abundance, by annelid worms. Other common infaunal groups include crustaceans, molluscs, and echinoderms. Organisms associated with this habitat are an important element of the marine food web.

The waters in the Central Bay are relatively deep and saline, and strong tidal currents create a dynamic bottom as sand waves reverse direction on each tide. The benthic community in the Central Bay reflects this marine influence and is composed largely of species that are found in

¹EPA/Environmental Protection Agency. 1991 Status and Trends Report on Aquatic Resources of the San Francisco Estuary. San Francisco Estuary Project. Prepared under EPA Cooperative Agreement by the U.S. Fish and Wildlife Service.

²CDFG/California Department of Fish and Game. 1987. Longterm Trends in Zooplankton Distribution and Abundance in the Sacramento-San Joaquin Estuary. Exhibit No. 28 to California Water Resources Control Board, 1987 Water Quality/Water Rights Proceeding on the San Francisco Bay/Sacramento-San Joaquin Delta, Sacramento. CA. 88pp.

sediments along the coast.^{3,4,5} In a study of soft bottom benthos in San Francisco Bay, the average abundance of infauna in the Central Bay (east of Yerba Buena) was 472 animals per 0.1 square meter.⁶ A total of 99 different taxa were found. The most abundant species were the crustacean amphipod *Ampelisca abdita*, and the annelid polychaete *Asychis elongata* and the oligochaete *Tubificoides* spp.

The benthic community responds strongly to both seasonal and year to year changes in physical parameters. Total weight of molluscs may be greater in winter compared to summer, while annelids, crustaceans, and other phyla often have higher values in summer.^{7,8} The strong water mixing within the Bay aids dispersal of larvae, juveniles, and adults of small species and allows rapid colonization of available substrate.⁹

Relatively few species of epibenthic macroinvertebrates are found in San Francisco Bay. The most abundant are crustaceans such as bay shrimp, Dungeness crab, and other crabs. The native Dungeness crab, *Cancer magister*, was once commercially harvested from the Bay.

³ Liu, D.H.W., K.D. Martin, and C.R. Norwood. 1975. San Francisco Bay Benthic Community Study--Technical Evaluation. U.S. Army Corps of Engineers dredge disposal study, San Francisco Bay and estuary, Appendix D. San Francisco. 244pp.

⁴ Nichols, F.H. 1979. Natural and Anthropogenic Influences on Benthic Community Structure in San Francisco Bay. In: San Francisco Bay: The Urbanized Estuary. T.J. Conomos (ed.). Pacific Division, American Association for the Advancement of Science, San Francisco, CA.

⁵ Nichols, F.H., and M.M. Pamatmat. 1988. The Ecology of the Soft-bottom Benthos of San Francisco Bay: A Community Profile. Biol. Rep. 85(7.19). U.S. Fish and Wildlife Service, Washington, DC.

⁶ MEC/MEC Analytical Systems, Inc. 1987. Analysis of Infaunal Community Structure from Four Sites in the San Francisco Bay Region. Prepared for Pacific Office, Coastal and Estuarine Assessment Branch Ocean Assessments Division, National Ocean and Service, U.S. NOAA.

⁷ Nichols, F.H., and M.M. Pamatmat. 1988. The Ecology of the Soft-bottom Benthos of San Francisco Bay: A Community Profile. Biol. Rep. 85(7.19). U.S. Fish and Wildlife Service, Washington, DC.

⁸ EPA/Environmental Protection Agency. 1991 Status and Trends Report on Wetlands and Related Habitats in San Francisco Bay. San Francisco Estuary Project. Prepared under EPA Cooperative Agreement by the U.S. Fish and Wildlife Service.

⁹ Nichols, F.H., and M.M. Pamatmat. 1988. The Ecology of the Soft-bottom Benthos of San Francisco Bay: A Community Profile. Biol. Rep. 85(7.19). U.S. Fish and Wildlife Service, Washington, DC.

Today, however, the importance of the Bay to this species lies in its use as a nursery area.¹⁰ The mouth of San Francisco Bay is a major settling area, and crabs enter the Bay as juveniles.¹¹ Juvenile crabs remain in the Bay until August or September of the following year.¹²

Native bay shrimp, including California bay shrimp (*Crangon franciscorum*), blacktail bay shrimp (*C. nigricauda*), blackspotted bay shrimp (*C. nigromaculata*), northern bay shrimp (*C. alaskensis*), and ghost shrimp (*Neotrypaea californiensis*), are collected for use as bait for commercial fisheries.¹³ In a study of the epifaunal invertebrates at Presidio Shoal, which lies between the project site and the Golden Gate Bridge, the most abundant species was the northern bay shrimp.¹⁴

FISH

With primarily deep water habitats, the Central Bay has a rich fish assemblage reflective of its direct connection with the Pacific Ocean. Marine fish species dominate the southern portion, whereas estuarine species are characteristic of the northern portion due to the influence of freshwater input from San Pablo Bay.

Commercial and recreational fish species frequently captured from the Central Bay are listed in Table 5. Dominant species include northern anchovy, English sole, shiner surfperch, white

¹⁰Tasto, R.N. 1983. Juvenile Dungeness Crab in the San Francisco Bay Area. In Life History, Environment and Mariculture Studies of the Dungeness Crab, Cancer magister, with Emphasis on the Central California Fishery Resource. P.W. Wild and R.N. Tasto (eds.). California Department of Fish and Game. Fish Bulletin No. 172:135-154.

¹¹Hatfield, S.E. 1983. Distribution of Zooplankton in Association with Dungeness Crab (*Cancer magister*) Larvae in California. In Life History, Environment and Mariculture Studies of the Dungeness Crab, Cancer magister, with Emphasis on the Central California Fishery Resource. P.W. Wild and R.N. Tasto (eds). California Department of Fish and Game, Sacramento, CA Fish Bulletin No. 172.

¹²EPA/Environmental Protection Agency. 1991 Status and Trends Report on Aquatic Resources of the San Francisco Estuary. San Francisco Estuary Project. Prepared under EPA Cooperative Agreement by the U.S. Fish and Wildlife Service.

¹³CDFG/California Department of Fish and Game. 1980. Atlas of California Coastal Marine Resources. State of California Resources Agency, Department of Fish and Game.

¹⁴MEC/MEC Analytical Systems, Inc. 1993. Special Studies for Sand Mining Discharges of the Tidewater Sand and Gravel Company. Prepared for Tidewater Sand and Gravel Company. November 1993.

TABLE 5 FISH SPECIES FREQUENTLY CAPTURED FROM THE CENTRAL BAY

American Shad (*Alosa sapidissima*)
Pacific Herring (*Clupea harengus pallasii*)
Northern anchovy (*Engraulis mordax*)
Longfin smelt (*Spirinchus thaleichthys*)
Chinook salmon (*Oncorhynchus tshawytscha*)
Plainfin midshipman (*Porichthys nototus*)
Jacksmelt (*Atherinopsis californiensis*)
Pacific staghorn sculpin (*Leptocottus armatus*)
White croaker (*Genyonemus lineatus*)
Shiner surfperch (*Cymatogaster aggregata*)
Bay goby (*Lepidogobius lepidus*)
Pacific pompano (*Peprilus simillimus*)
Speckled sanddab (*Citharichthys stigmaeus*)
Starry flounder (*Platichthys stellatus*)
English sole (*Parophrys vetulus*)

Source: EPA, 1991. Status and Trends Report on Aquatic Resources of the San Francisco Estuary. San Francisco Estuary Project.

croaker, speckled sanddab, jacksmelt, Pacific herring, and longfin smelt, with seasonal incursions of bay goby and plainfin midshipman.¹⁵ Starry flounder are characteristic of shallow waters.¹⁶

Marine fish in San Francisco Bay can be divided into species that are seasonally present and those that maintain at least part of their population in the Bay year round. Northern anchovy are

¹⁵ EPA/Environmental Protection Agency. 1991 Status and Trends Report on Aquatic Resources of the San Francisco Estuary. San Francisco Estuary Project. Prepared under EPA Cooperative Agreement by the U.S. Fish and Wildlife Service.

¹⁶ Ibid.

widely distributed and account for 80% of the fish in the Bay.¹⁷ Eggs and larvae of this species are present in the Bay, indicating that all life stages utilize the Bay, but none stay year round. Likewise, Pacific herring, the second most abundant species, enter the Bay primarily for spawning, with adults present in high abundance only seasonally. Pacific herring begin to immigrate into the Bay in November, with spawning occurring from December to February.¹⁸

Other marine species that utilize the Bay as a nursery ground include starry flounder, English sole, speckled sanddab, and white croaker. Spawning occurs outside the Bay, then eggs and larvae enter the Bay via density-driven bottom currents and tidal forces.¹⁹ Species that rely on these bottom currents for transport can be adversely affected when river outflow is low.²⁰

Anadromous species that ascend from sea to rivers to spawn must pass through the Central Bay on their travel to the Delta, but only chinook salmon occur regularly. This species travels through the deeper waters of Central Bay (outside of the project area) primarily from April to June.²¹

BIRDS

Species of birds that are characteristic of open water habitats in San Francisco Bay are listed in Table 6. The most abundant species are Clark's and Western grebes, Western gull, and American coot.²² Other common species include glaucous-winged gull, red-throated and common loons, horned grebe, California brown pelican, double-crested cormorant, and surf scoter. San Francisco Bay provides important habitats year round for over-wintering, breeding,

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Pearson, D.E. 1989. Survey of Fishes and Water Properties of South San Francisco Bay, California, 1973-82. NOAA Technical Report. National Marine Fisheries Service No. 78.

²⁰ Armor, C., and P.L. Herrgesell. 1985. Distribution and Abundance of Fishes in the San Francisco Bay Estuary Between 1980-1982. Hydrobiologia 129: 211-227.

²¹ EPA/Environmental Protection Agency. 1991 Status and Trends Report on Aquatic Resources of the San Francisco Estuary. San Francisco Estuary Project. Prepared under EPA Cooperative Agreement by the U.S. Fish and Wildlife Service.

²² Ibid.

TABLE 6 OPEN WATER-HABITAT BIRDS OF SAN FRANCISCO BAY

Red - throated loon (<i>Gavia stellata</i>)
Common loon (<i>Gavia immer</i>)
Horned grebe (<i>Podiceps auritus</i>)
Western grebe (<i>Aechmophorus occidentalis</i>)
Clark's grebe (<i>Aechmophorus clarkii</i>)
California brown pelican (<i>Pelecanus occidentalis californicus</i>)
Double - crested cormorant (<i>Phalacrocorax auritus</i>)
Brandt's cormorant (<i>Phalacrocorax penicillatus</i>)
Pelagic cormorant (<i>Phalacrocorax pelagicus</i>)
Scaupp spp. (<i>Aythya</i> spp.)
Surf scoter (<i>Melanitta perspicillata</i>)
American coot (<i>Fulica americana</i>)
Western gull (<i>Larus occidentalis</i>)
Glaucous - winged gull (<i>Larus glaucescens</i>)
Caspian tern (<i>Sterna caspia</i>)
Forster's tern (<i>Sterna forsteri</i>)

Source: EPA, 1991. Status and Trends Report on Wildlife of the San Francisco Estuary. San Francisco Estuary Project.

and migratory species. Greatest species diversity occurs during fall and winter, and highest abundances coincide with the spring and fall migrations.

Preferred habitat utilization in the Bay is both species dependent and seasonal. Wintering red-throated and common loons utilize deep, open waters, particularly in the Central Bay. Western and Clark's grebes are abundant wintering species that also use open bay waters with preference to narrows or islands in the Central Bay. Western gulls and most other gulls are abundant year round residents, foraging opportunistically throughout the Bay. Terns seasonally utilize open bay areas, breakwaters, and marshes. Scaup and scoters are the principal waterfowl in open water areas of the Central Bay. The American coot is an abundant species that is found throughout the Bay but has preference for open water and marshes. California

brown pelicans are characteristic of rocky intertidal habitats of the Central Bay.²³

Abundant nesting species in the Central Bay are the Western gull and double-crested cormorant. Key breeding areas for these species are located at Richmond-San Rafael Bridge, San Francisco-Oakland Bay Bridge, and Alcatraz Island. Although the California brown pelican does not nest in the area, San Francisco Bay is used by this species for foraging and roosting. Roosting locations in the Central Bay include Angel Island and Hunter's Point.²⁴

MAMMALS

Commonly occurring mammals in San Francisco Bay include the harbor seal (*Phoca vitulina richardii*) and California sea lion (*Zalophus californianus*), with estimated populations of 700 and 600 animals, respectively.²⁵ The Stellar sea lion (*Eumetopias jubatus*) has been sighted near Pier 39.²⁶

Primary haulout sites for the harbor seal are located at Mowry Slough, Greco Island, Yerba Buena Island, Castro Rocks near the Richmond-San Rafael Bridge, and Corte Madera Ecological Reserve. Mowry Slough and Greco Island also serve as breeding grounds for this species. A principal haulout for the California sea lion is at the Pier 39 marina. This species does not breed in the Bay and is rarely observed in the area from May through July. Peak abundances of the California sea lion at Pier 39 occur in January and February,²⁷ coinciding with the Pacific herring spawn.²⁸ Sea lions rest during the day and forage in open waters of the Central Bay

²³ EPA/Environmental Protection Agency. 1991 Status and Trends Report on Wildlife of the San Francisco Estuary. San Francisco Estuary Project. Prepared under EPA Cooperative Agreement by the U.S. Fish and Wildlife Service.

²⁴ EPA/Environmental Protection Agency. 1991 Status and Trends Report on Aquatic Resources of the San Francisco Estuary. San Francisco Estuary Project. Prepared under EPA Cooperative Agreement by the U.S. Fish and Wildlife Service.

²⁵ EPA/Environmental Protection Agency. 1991 Status and Trends Report on Aquatic Resources of the San Francisco Estuary. San Francisco Estuary Project. Prepared under EPA Cooperative Agreement by the U.S. Fish and Wildlife Service.

²⁶ Feldman, H. 1994. Monitoring Report: Seaplane Effects on Sea Lions at Pier 39. Conducted by the Marine Mammal Center, Marin Headlands, Golden Gate National Recreation Area, Sausalito, CA. November 1994.

²⁷ Ibid.

²⁸ CSLC/California State Lands Commission. 1994. California Comprehensive Offshore Resource Study. Volume I. 435pp.

and the ocean at night.²⁹ Both the harbor seal and California sea lion have been observed in the project area but primarily haul out at Pier 39 floating docks.

SENSITIVE SPECIES

Common Loon

The common loon (*Gavia immer*) is a California Species of Special Concern. This species forages on fish and, to a lesser degree, aquatic invertebrates. Prey are pursued and swallowed under water.³⁰ Common loons utilize the deep, open waters of the Central Bay.

Double-crested Cormorant

The double-crested cormorant (*Phalacrocorax auritus*) also is a California Species of Special Concern. This species forages in open waters for a variety of prey including flounder, smelt, surfperch, and shrimp.³¹ The cormorant nests in the Central Bay; the nest site closest to the project area is Alcatraz Island.

California Brown Pelican

The California brown pelican (*Pelecanus occidentalis californicus*) is a federal and state-listed endangered species. Brown pelicans roost on land at night and forage in shallow waters during the day. Anchovies are the preferred food of the brown pelican.³² Roosting locations in the Central Bay include Angel Island. None have been recorded in the project area.

²⁹ Feldman, H. 1994. Monitoring Report: Seaplane Effects on Sea Lions at Pier 39. Conducted by the Marine Mammal Center, Marin Headlands, Golden Gate National Recreation Area, Sausalito, CA. November 1994.

³⁰ Ehrlich, P.R., D.S. Dobbin, and D. Wheye. 1988. The Birder's Handbook: A Field Guide to the Natural History of North American Birds.

³¹ MMS/Minerals Management Service. 1984. Final Environmental Impact Statement: Volume I, Proposed 1983 Outer Continental Shelf Oil and Gas Lease Offering Santa Barbara Channel. OCS Sale No. 80. December 1983.

³² Jaques, D.L., and D.W. Anderson. 1987. Final Report. Conservation Implications of Habitat Use and Behavior of Wintering Brown Pelicans *Pelecanus occidentalis californicus*. Submitted to the Public Service Research and Dissemination Program, University of California, Davis.

Stellar Sea Lion

The Stellar sea lion (*Eumetopias jubatus*) is listed as federally threatened. Stellar sea lion breeding occurs from mid-May to the end of June at locations including the Farallon Islands and Ano Nuevo Island.³³ This species has been sighted intermittently at Pier 39.³⁴

³³ Biosystems Analysis, Inc. 1994. Life on the Edge: A Guide to California's Endangered Natural Resources. Volume I. Wildlife. C.G. Thelander (ed.). 550pp.

³⁴ Feldman, H. 1994. Monitoring Report: Seaplane Effects on Sea Lions at Pier 39. Conducted by the Marine Mammal Center, Marin Headlands, Golden Gate National Recreation Area, Sausalito, CA. November 1994.

D. PUBLIC UTILITIES

SEWER AND STORMWATER SERVICES

The combined sewer system in the City carries both municipal and industrial wastewater and intercepted storm runoff in the same sewer pipes. On the east side of the City, the City owns and operates two wastewater pollution control plants along the Bay, which discharge the treated effluent to the Bay.

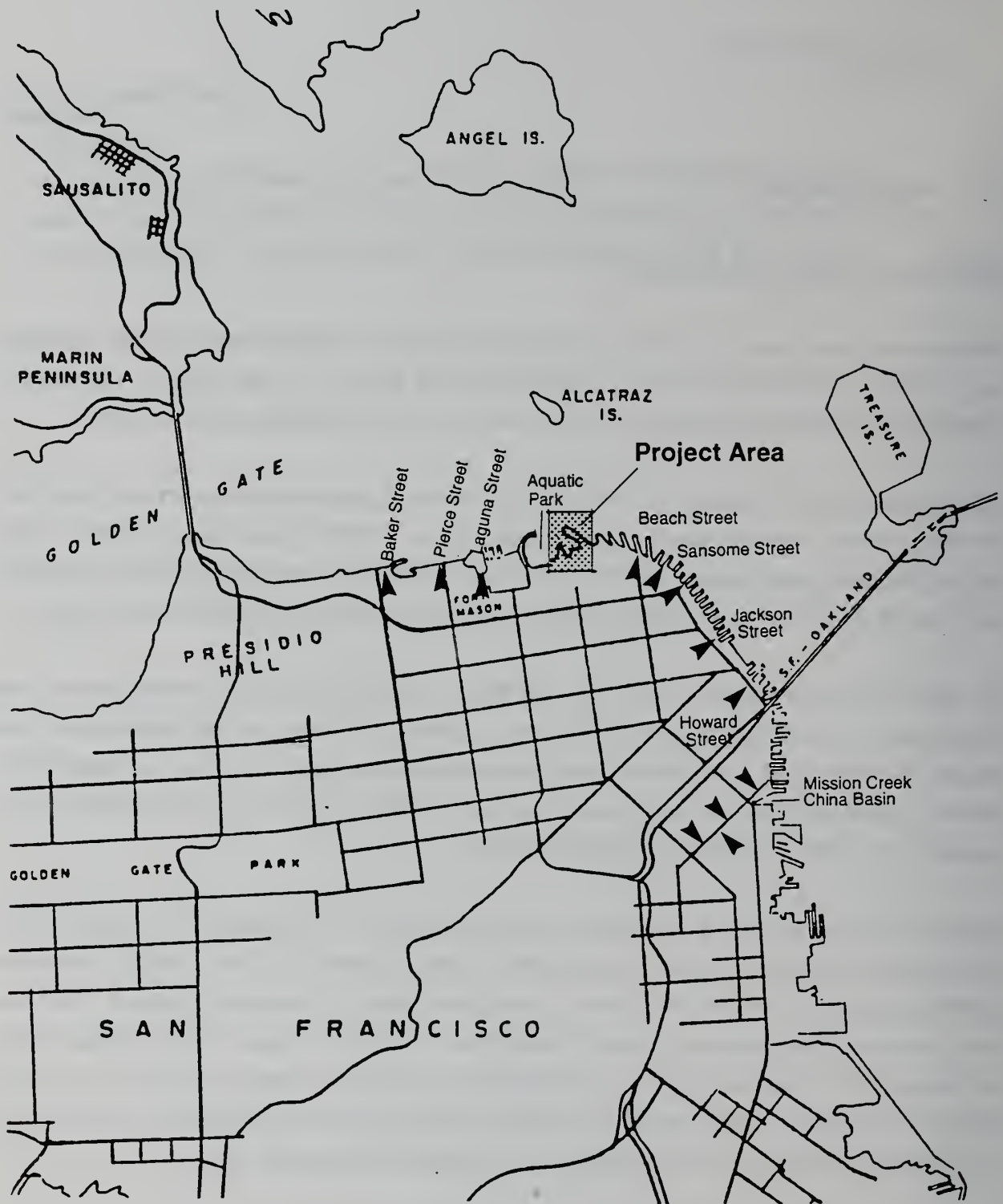
The Southeast Water Pollution Control Plant (SEWPCP) is located on Jerrold Avenue between Quint Street and Phelps Street. Secondary-treated dry weather effluent from SEWPCP is discharged to the Bay through the Pier 80 Outfall, located east of the Army Street Pier. The SEWPCP treats about 85 million gallons per day (mgd) of sewage during dry weather, including all flows from the waterfront and the project area.

The North Point Water Pollution Control Plant (NPWPCP) is located on Bay and Kearney Streets at the Embarcadero. It is a primary treatment facility, with a capacity of 150 mgd, and only operates during wet weather. Treated effluent is discharged through two outfalls located under Pier 33 and two outfalls under Pier 45. Stormwater from the project area is treated at NPWPCP during heavy rains when treatment capacity of the SEWPCP (about 210 mgd) is exceeded.

Hyde Street Harbor and Pier 45 are located within the Northshore Consolidation drainage basin, which includes seven wet weather overflow points to the Bay. During especially heavy rains, untreated wet weather runoff in excess of the treatment plant capacity discharges to the Bay at the following locations: to the west of the proposed project are outfalls located at Baker Street, Pierce Street, Laguna Street, and Beach Street; to the east of the proposed project are outfalls located at Sansome Street and Jackson Street. The NPDES¹ Permit issued by the Regional Water Quality Control Board allows an average of four overflows to the Bay per year at each of these locations.² The locations are shown on Figure 12.

¹ National Pollutant Discharge Elimination System Permit, which is issued by the Regional Water Quality Control Board to facilities which discharge effluent to public waters. The permit specifies allowable limits for pollutants in the effluent.

² Regional Water Quality Control Board Order Number 95-039, NPDES Permit Number CA0038610, Reissuing Waste Discharge Requirements for City and County of San Francisco, Bayside Wet Weather Facilities, February 15, 1995.



**STORM WATER
OVERFLOW LOCATIONS**

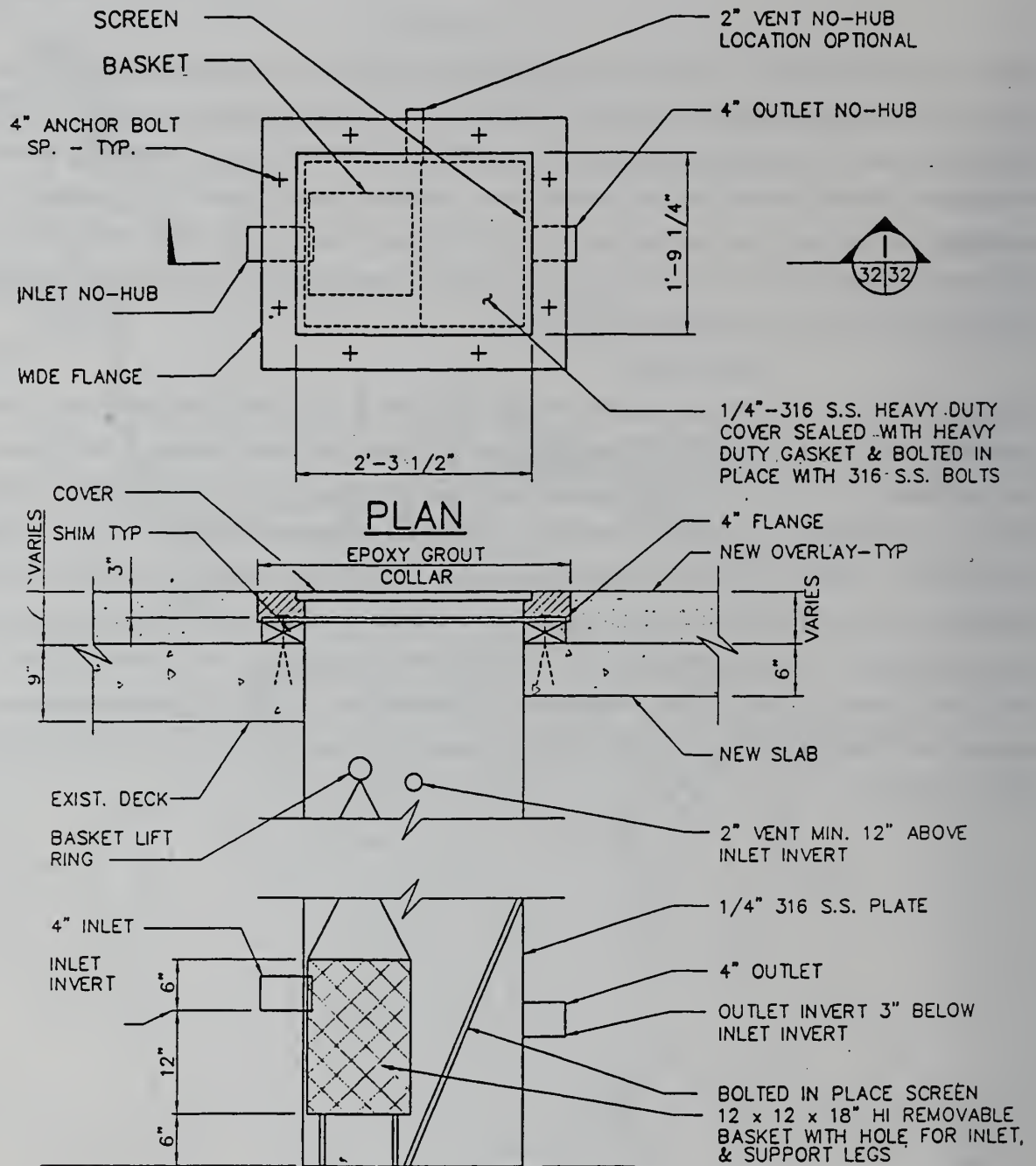
FIGURE NO. 12

Sewer mains in the proposed project area are typically three-foot by five-foot oval brick mains over 100 years old. Other materials used to construct the mains include glazed clay, vitrified clay, reinforced concrete and polyethylene. Some sections of pipe have been retrofitted with plastic liners. The existing system has no apparent problems handling the dry weather flows. Jefferson Street is served by a modified 51-inch reinforced concrete pipe sewer line that tapers to a 45-inch reinforced concrete pipe.³ The piers have no stormwater drainage connections to the City sewer system. Several locations along Fish Alley have drains in the paved pier that drain directly to the Bay.

Following the 1989 Loma Prieta earthquake, rehabilitation work was required on existing utility systems. Under the FEMA grant to complete earthquake repairs in the area, some improvements to the infrastructure were completed in 1994 to bring the Pier into code compliance. These improvements included: installation of a six-inch sewer force main along Pier 45 to the 51-inch sewer line under Jefferson Street; installation of drains, floor sinks and solids separators in each lease area for the fish handling in Sheds B and D; and installation of two 4,000-gallon oil/water separators for stormwater runoff located under the paved surface on Pier 45 between Sheds A and C. Runoff from the sheds roofs and parking area is directed to the valley, then to the oil/water separator. From the separator, the water flows to the Bay. The solids interceptor and separator sinks are connected to a sump, which connects to the six-inch sewer line along the pier,⁴ as shown in Figure 13.

³ Communication with Henry Anderson, City and County of San Francisco, Department of Public Works, February 15, 1990.

⁴ Personal interview with Ed Bubnis, Chief Building Inspector, Port of San Francisco, June 12, 1995.



**SOLIDS INTERCEPTOR AND SEPARATOR
SINKS IN SHEDS B AND D**

FIGURE NO. 13

WATER SUPPLY SERVICES

The San Francisco Water Department stores and distributes potable water for domestic use and fire protection within San Francisco and also sells water to public and private water companies serving San Mateo, Alameda and Santa Clara counties. Water for residential and business uses in San Francisco is distributed through low-pressure mains from eleven operating City reservoirs.⁵ Water service within the proposed project area is supplied from the 140.9 million gallon University Mound Reservoir, on University and Bacon Streets near McLaren Park.⁶

The Water Department's capital improvement program calls for improving the water supply system on a continuous basis. Older mains with leakage problems are targeted for replacement. The repair schedule is decided at the beginning of the fiscal year and often coincides with street resurfacing plans. There is no currently scheduled work in the area of the proposed project, although there has been some water supply system main replacement in the vicinity over the last few years.⁷

The water distribution system in the City generally withstood the Loma Prieta earthquake of 1989. Main pipeline breaks occurred in the Marina district due to liquefaction of Bay mud and of uncompacted fills dating from the 1930's. Even though much of the Fisherman's Wharf area is also on fill, main pipeline breaks did not occur there during the earthquake.⁸

The proposed project area is served by an 8-inch water main along Jefferson Street, which tapers to a six-inch main west of Hyde Street. There is a six-inch main along Taylor Street to Pier 45 and a four-inch water main in Jones Alley, which tapers to a two-inch water main along Pier 47.⁹

⁵ Personal interview with Joe Pelayo, Jr., Section Head, San Francisco Water Department, Distribution Division, Engineering, June 7, 1995.

⁶ Personal interview with Bhulabhai Desai, Civil Engineer, San Francisco Water Department, Distribution Division, Engineering, June 7, 1995.

⁷ Personal interview with Joe Pelayo, Jr., Section Head, San Francisco Water Department, Distribution Division, Engineering, June 7, 1995.

⁸ Personal interview with Steven I. Van Dyke, Superintendent, San Francisco Fire Department, Bureau of Engineering and Water Supply, June 16, 1995.

⁹ Personal interview with Bhulabhai Desai, Civil Engineer, San Francisco Water Department, Distribution Division, Engineering, June 7, 1995.

E. PUBLIC SERVICES

POLICE SERVICES

The San Francisco Police Department (SFPD) provides police protection to the City and all waters within the City's jurisdiction. This would include waters such as the Harbor at Pier 45. The U.S. Coast Guard has criminal jurisdiction only over crimes that occur beyond the breakwater. Crimes that occur on moored vessels or boats that are underway are outside of Coast Guard jurisdiction.¹

SFPD patrol functions are performed out of ten district stations. The proposed project is within the jurisdiction of the Central District, which extends from Geary and Larkin Streets, north on Larkin to Aquatic Park, east and south along the Bay to Market Street, and Market Street to the intersection of Geary and Larkin Streets.² The densely populated neighborhoods and the daily influx of business people and tourists create congestion and a high demand for police services in the District.³

Central Station is located on the ground floor of a five-story public parking garage at 766 Vallejo Street between Stockton and Powell Streets, about one mile from the project area. A 1987 study recommended Central Station be relocated, but due to citizen demands and budget constraints, that it not likely to happen.⁴

Since May 1994, there has been police office space at the Wharfinger's Office near the Inner Harbor for an officer from the Central Station. This space has not yet been staffed. There is also a Port police officer stationed in the Ferry Building who responds to on-going police issues at the piers.^{5, 6}

¹ Telephone conversation with Sergeant Dan Greeley, Central Station, San Francisco Police Department, June 7, 1995.

² Ibid.

³ The Central District originally included an additional fourteen square blocks in the Tenderloin area, which has the highest rate of major crimes in the City. That area was assigned to the Tenderloin Task Force approximately three years ago and is no longer within the Central District.

⁴ Telephone conversation with Sergeant Dan Greeley, Central Station, San Francisco Police Department, June 7, 1995.

⁵ Personal interview with John Davies, Wharfinger, June 16, 1995.

⁶ Telephone conversation with Officer John Purenti, San Francisco Port Police, January 11, 1996.

The police boat is berthed at South Beach Harbor. It is manned by a volunteer staff, operating under the Special Operations Group. It is staffed for special events, such as the Fourth of July and Opening Day on the Bay, and as directed by the Chief.⁷

The Central District includes 42 reporting areas or plots. In 1994, the three plots that compose the area that includes Hyde Street Harbor, Fisherman's Wharf and Pier 45 reported a total number of 344 incidents which involved a police report. Major crimes that are reported include homicide, rape, robbery, assault, burglary, theft and auto theft. Of the crimes reported in the three plots surrounding the project area in 1994, 60 percent of the calls related to theft and grand theft. The entire Central District reported 15,843 incidents in 1994. For the first quarter of 1995, the three Central District plots surrounding the project area reported 47 incidents, with 36 percent being grand theft.⁸

FIRE PROTECTION SERVICES

The San Francisco Fire Department (SFFD) provides fire protection within the City limits. In the Fisherman's Wharf area, the Port of San Francisco Fire Marshall conducts pier inspections and investigates fires, hazardous materials incidents and other emergencies occurring on Port property. The U. S. Coast Guard responds to incidents at sea and assists the SFFD along the waterfront when called upon. The SFFD Fireboat is berthed at Pier 22-1/2.

Normal response to a fire within the project area would include 3 engines, 2 trucks, a rescue squad, a Fire Chief and an Assistant Chief. These services would be provided from nearby stations. The first stations to respond to a fire in the project area would be ⁹:

Engine No. 28	1814 Stockton Street
Engine No. 2	1340 Powell Street
Engine No. 41	1325 Leavenworth

⁷ Telephone conversation with Sergeant Dan Greeley, Central Station, San Francisco Police Department, June 7, 1995.

⁸ Communication with Officer Janet Lacampagne, San Francisco Police Department Planning Division, June 22, 1995.

⁹ Telephone conversation with Lt. Paul Fuhrman, San Francisco Fire Department Business Office, June 8, 1995.

Truck No. 2	1340 Powell Street
Truck No. 13	530 Sansome Street
Rescue Squad	Third and Howard Streets
Division 2 Chief	1301 Turk Street
Battalion 1 Assistant Chief	1340 Powell Street
Fire Boat	Pier 22-1/2

Typical first response times are 3.8 minutes for the first engine. Fire truck response time is slightly longer and averages approximately 5 minutes.¹⁰

As part of the 1989 Seismic Bond Program and the 1992 Fire Department Improvement Bond Program, several fire stations are undergoing seismic strengthening and facility upgrades. Fire Station No. 2, located at 1340 Powell Street was rebuilt from the ground up under this program and opened approximately one year ago.¹¹

The Bureau of Engineering and Water Supply is responsible for the management, operation and maintenance of the water supply systems used for firefighting. The Auxiliary Water Supply System (AWSS) is an independent, high-pressure, fresh-water water supply system used for fire suppression and the service area extends into the Fisherman's Wharf area.¹²

Since the wharf and project area are on infirm ground, no cisterns are located in the area. The Bay is used as a water source for the AWSS. Pier 45 and the Hyde Street Pier are served by three suction hydrants that the Fire Department checks monthly and services annually. They are located on the west side of the Hyde Street Pier; near Scoma's Restaurant; and on the north side of Jefferson Street at Jones Street (at the Inner Lagoon). In addition to the suction hydrants, there are three AWSS high pressure hydrants in the project area: at Leavenworth Street (north side of Jefferson Street); at Jones Street (south side of Jefferson Street); and on the north side of Jefferson Street (half way between Jones and Leavenworth Streets). The AWSS system pump station is located at the foot of Van Ness Avenue, near the Municipal Pier. The pump station was overhauled in 1986 as part of a bond issue. There is a also a fireboat manifold at the foot of

¹⁰ Telephone conversation with Lt. Paul Fuhrman, San Francisco Fire Department Business Office, June 8, 1995.

¹¹ San Francisco Fire Department Annual Report 1992 - 1993, June 1, 1994.

¹² San Francisco Fire Department Annual Report 1992 - 1993, June 1, 1994.

Leavenworth Street (Richard Henry Dana Street). This manifold has ten three-inch connections.¹³ There is a fire alarm box along the Pier near Scoma's Restaurant.

In addition, there are low-pressure fire hydrants that access the municipal water supply at several locations in the proposed project area.¹⁴ Currently, the sheds on Pier 45 are served by fire sprinklers and low pressure hydrants.

¹³ Personal interview with Steven I. Van Dyke, Superintendent, San Francisco, Bureau of Engineering and Water Supply, June 16, 1995.

¹⁴ Personal interview with Bhulabhai Desai, Civil Engineer, San Francisco Water Department, Distribution Division, Engineering, June 7, 1995.

F. AIR QUALITY

METEOROLOGY AND CLIMATE

The Bay area's climate, as with all of California coastal environs, is dominated by the strength and position of the semi-permanent high pressure center over the Pacific Ocean near Hawaii. It creates cool summers, mild winters, and infrequent rainfall; it drives the cool daytime sea breeze and maintains comfortable humidities and ample sunshine. Temperatures in the San Francisco area average 57 degrees Fahrenheit annually, ranging from the mid-40s on winter mornings to the mid-70s in late summer afternoons. The strong onshore flow of wind in summer keeps cool air and frequent cloudiness over the Bay area until September when the offshore Pacific high pressure center weakens and migrates southward. Warmest temperatures generally occur in September and October. Temperature extremes, reaching 90 degrees or dropping to freezing, are rare in San Francisco. Rainfall in San Francisco averages 21 inches per year and is confined primarily to the "wet" season from late October to early May. Except for occasional light drizzles from thick marine stratus clouds, summers are almost completely dry.

Winds in the project area display several characteristic regimes. During the day, especially in summer, winds are from the southwest-west at 10 to 14 miles per hour as air is funneled through the Golden Gate. At night, especially in winter, the land becomes cooler than the water and an offshore flow off the hills develops over portions of the area. In San Francisco, however, the marine intrusion is so strong that the onshore flow persists both day and night during the warmer months. On the north side of San Francisco in both winter and summer, the background pollution upwind from the project area is generally sufficiently low such that the project area experiences excellent air quality and rarely exceeds clean air standards.

Based on the monthly climatic conditions as determined from long-term measurements at the downtown Federal Building, the following general climatic conditions occur at the project site:

- Sunniest and warmest conditions occur from June to September. The same time period experiences average daily wind speeds from the west greater than ten miles per hour, blowing almost 24 hours per day. During the daytime during summer months, windspeeds are even higher, with winds coming from the direction of Aquatic Park toward Pier 45.

- The warmest months in San Francisco are September and October when the onshore flow weakens as the Central Valley cools down. Average wind speeds during the warmest months with warmest air and water temperatures are still west to east, with average speeds of greater than eight miles per hour.

AMBIENT AIR QUALITY STANDARDS

The Clean Air Act Amendments of 1970 established national ambient air quality standards, and individual states retained the option to adopt more stringent standards or to include other pollutant species. California already had standards in existence before federal standards were established, and because of the unique meteorological conditions in the state, there is considerable diversity between state and federal standards currently in effect in California as shown in Appendix C, Table AQ-1.

The ambient air quality standards are the levels of air quality considered safe to protect the public health and welfare and incorporate an adequate margin of safety. They are designed to protect those segments of the public most susceptible to respiratory distress, known as sensitive receptors, such as asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels somewhat above the ambient air quality standards before adverse health effects are observed.

AMBIENT AIR QUALITY

The Bay Area Air Quality Management District (BAAQMD) operates a regional monitoring network which measures the ambient concentration of six air pollutants: ozone, carbon monoxide, fine particulate matter (inhalable- or respirable-sized particles), lead, nitrogen dioxide, and sulfur dioxide. On the basis of the monitoring data, the Bay Area, including the City and County of San Francisco, is designated an "attainment" area with respect to federal air quality standards. Air quality attainment means that state standards are met as required by the California Clean Air Act (AB-2595). San Francisco occasionally experiences violations of state eight-hour carbon monoxide and particulate matter standards, but has not recently violated the ozone standard. State ozone standards are exceeded in portions of the Bay Area Air Basin, especially the Santa Clarita and Livermore valleys.

Existing and probable future levels of air quality in San Francisco can be generally inferred from ambient air quality measurements conducted by the BAAQMD at its two San Francisco air monitoring stations. The Potrero Hill station at 10 Arkansas Street measures all criteria pollutants, including regional pollutants such as ozone, as well as primary vehicular pollutants near busy roadways such as carbon monoxide. The station at 939 Ellis Street at the BAAQMD headquarters measures only carbon monoxide. Appendix C, Table AQ-2 summarizes the last six years of published data (1988 to 1993) from these monitoring stations. Final data for 1994 are not yet available as of March 1996. During this six-year period, there were no violations of the one-hour or eight-hour carbon monoxide standards at the Arkansas Street monitoring station. The state particulate matter standard was violated five days out of 61 measurement days in 1993, compared to nine days out of 61 measurement days in 1992. At the Ellis Street monitoring station, the carbon monoxide standard was violated once in 1988, and the ozone, nitrogen dioxide, and particulate sulfate measurements were within the allowable maximum concentrations for the six-year period.

Comparison of these data with those from other BAAQMD monitoring stations indicates that San Francisco's air quality is among the least degraded of all developed portions of the Bay area. Three of the four prevailing winds (west, northwest, and west-northwest) blowing off the Pacific Ocean reduce the potential for San Francisco to receive air pollutants from elsewhere in the region.

Data from air quality monitoring in San Francisco show that there have been infrequent local exceedences of state and federal carbon monoxide and inhalable particulate matter standards, largely due to air pollutant emissions from within the City. Carbon monoxide is a non-reactive air pollutant, the major source of which is motor vehicles. Carbon monoxide concentrations are generally highest during periods of peak traffic congestion. The last violation of the carbon monoxide standard in the City was in 1988.

The primary sources of particulates in San Francisco are construction and demolition, combustion of fuels for heating, and vehicle travel over paved roads. Airborne dust levels measured in San Francisco show occasional violations of the state inhalable particulate standards, and maximum particulate levels have decreased slightly over the six-year period from 1988 to 1993. In general, particulate levels are relatively low near the coast, increase with

increasing distance from the coast, and peak in dry, sheltered valleys. One federal standard violation occurred in 1990, though federal guidelines allow for no more than one violation per year averaged over a three-year period in defining a "non-attainment" area.

SOURCES OF EMISSIONS

The automobile and other mobile sources are the dominant contributors to the regional pollution burden for nitrogen dioxide and carbon monoxide. These sources also contribute a substantial fraction of reactive organic gases, the other important precursor to regional smog formation. Table 7 summarizes the air basin pollution inventory for 1991 which is the current attainment planning inventory.

On-road emission sources, of which existing travel to and from Fisherman's Wharf is a small fraction of all regional travel, generate 24 percent of all reactive organic gases, 53 percent of nitrogen oxides, and 67 percent of all regional carbon monoxide emissions. Ship emissions, which include the current commercial fishing vessels at Pier 45, contribute less than two percent of reactive organic gases, less than three percent of nitrogen oxides, and less than four percent of all basinwide carbon monoxide emissions.

TABLE 7. BAY AREA AIR BASIN EMISSIONS INVENTORY, 1991 (tons/day)

Emission Source	Inhalable Particulate	Reactive Organic Gases	Nitrogen Oxides	Sulfur Oxides	Carbon Monoxide
Industrial Processes	197	59	52	55	35
Evaporative Emissions	--	118	--	--	--
Combustion of Fuels	35	21	106	15	216
Total Stationary Sources	232	198	158	70	251
Cars & Pick-up Trucks	25	137	144	8	1100
Other On-Road	25	63	147	19	529
Ships, Boats & Trains	1	20	16	18	82
Aircraft	3	17	16	1	75
Off-Road Equipment	5	27	69	6	342
Total Mobile Sources	59	264	392	52	2128
TOTAL MISC. SOURCES	753	351	1	--	50
TOTAL ALL SOURCES	1044	819	551	122	2429

Source: Bay Area Air Quality Management District, 1993. *Air Quality Handbook*.
Appendix IV.

AIR QUALITY PLANNING

The 1977 Clean Air Act required that regional planning and air pollution control agencies prepare a regional Air Quality Plan to outline the measures by which both stationary and mobile sources of pollutants can be controlled in order to achieve all standards within the deadlines specified in the Clean Air Act. For the Bay Area Air Basin, the Association of Bay Area Governments (ABAG), the Metropolitan Transportation Commission (MTC), and the BAAQMD jointly prepared a Bay Area Air Quality Plan in 1982 which predicted attainment of all national clean air standards within the basin by 1987. Although air quality improvements were made, the Bay Area failed to attain national and state ambient air quality standards for carbon monoxide and ozone by 1987. However, by 1994, regional air quality monitoring data indicated that the Bay Area had attained the national ozone and carbon monoxide standards and the state carbon monoxide standard.

In June 1995, the U.S. EPA designated the Bay Area as an attainment area with respect to the national ozone standard. The BAAQMD has applied to the U.S. EPA for attainment status for carbon monoxide since none of the regional monitoring stations has recorded an exceedance of the national standard since 1991. However, the Bay Area has not yet been granted official federal designation as an attainment area with respect to carbon monoxide.¹ Under the federal Clean Air Act, regions that have attained air quality standards still must demonstrate how they will maintain compliance with the federal standards in future years. Therefore, the BAAQMD has developed Maintenance Plans for the Bay Area for ozone and carbon monoxide. For inhalable particulate matter, the basin is "unclassified" at present, awaiting a possible revision of particulate standards to include only very fine particulate matter.

With respect to the more stringent state ambient air quality standards, the Bay Area Air Basin is currently a "non-attainment" area for ozone and inhalable particulate matter standards. The 1988 California Clean Air Act (AB-2595) required development of air quality plans and strategies to reduce ozone and carbon monoxide levels in the Bay Area. As a result, a more recent Bay Area Clean Air Plan was prepared in 1994, with the main objective of attaining the state ozone

¹ Henry Hilken, Planner, Bay Area Air Quality Management District. Telephone communication with Joyce Hsiao, Orion Environmental Associates, March 1996.

standard. Attainment of the California ozone standard in the Bay Area has not yet occurred, since emissions reductions as required by the Clean Air Plan are partially offset by new emissions from population and industry growth in the basin.

The 1994 Bay Area Clean Air Plan contains specific measures aimed to reduce indirect sources of emissions, including transportation control measures designed to reduce the contribution of the automobile as the single-most important contributor to degraded air quality. Any project which attracts a substantial increase in automobile traffic or marine vessel activity may have an effect on air quality planning if the associated emissions have not been accounted for in the regional air quality plan.

Currently, there are no existing state requirements regulating air pollutant emissions from fishing boats. However, the State Implementation Plan includes measures calling for marine vessels to meet the federal standards for nitrogen oxide emissions. The Plan indicates that reduction in nitrogen oxide emissions from marine vessels could be achieved by the year 2005.²

ODOR REGULATION

The Bay Area Air Quality Management District regulates odor emissions in San Francisco under the District's Odor Regulation (Regulation 7) and the Public Nuisance laws (California Health and Safety Code, Section 41700). Regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds; in addition, if the District receives and confirms odor complaints from ten or more members of the public within a 90-day period, the District has the authority to collect an air sample and can issue a violation notice. Under the Public Nuisance regulation, five confirmed odor complaints within a 24-hour period is considered a violation and would initiate action by the BAAQMD with the originator of the odor source to determine if the odor can be reduced.³ In the Fisherman's Wharf area, there have been no odor complaints within the last year.⁴

² Telephone communication with Jackie Lourenco, Manager of Off-Road Control Section, California Air Resources Board with Joyce Hsiao, Orion Environmental Associates, June 12, 1995.

³ Telephone communication with Joe Steinberger, Planner, Bay Area Air Quality Management District with Joyce Hsiao, Orion Environmental Associates, June 12, 1995, and Bay Area Air Quality Management District pamphlet entitled "Odors."

⁴ Telephone communication with Jim Ting, Area Inspector, Bay Area Air Quality Management District with Evelyn Shellenberg, Orion Environmental Associates, January 12, 1996.

G. TRANSPORTATION

This section describes the existing conditions of the transportation system in the vicinity of the proposed project. Included are the roadway system traffic operations, transit service, parking, pedestrian circulation and access, truck traffic and safety conditions.

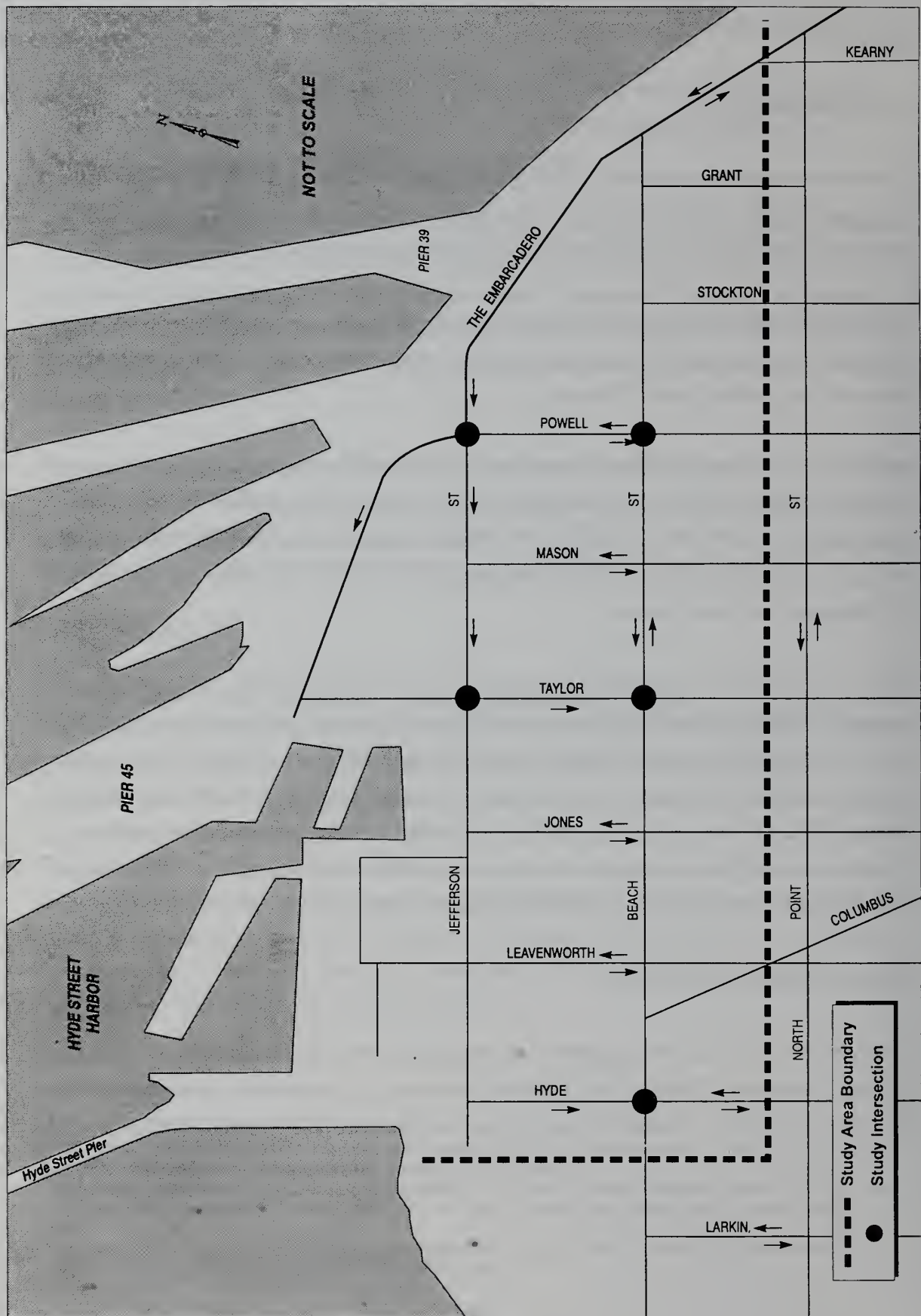
The transportation study area is bounded by Hyde Street to the west, San Francisco Bay to the north and east, and Beach Street to the South. The transportation study area and intersections that were analyzed are shown in Figure 14.

A network of highways and major arterials provide direct access between the project study area and other destinations in the city and region. Regional access to the project site is provided by three freeways: U.S. 101 to the north via Van Ness Avenue and Lombard Street, Interstate 80 to the East Bay and Central Valley via The Embarcadero, U.S. 101/I-280 to the Peninsula and the South Bay via Van Ness Avenue.

Most of the traffic coming into the study area arrives via The Embarcadero. The Embarcadero is defined in the City's Master Plan as a major arterial and a recreational street west of North Point Street. The Embarcadero east of North Point Street is included in the Congestion Management Program. As defined by the City's Master Plan, Transit Preferential Streets within the study area include Jefferson, Beach and Hyde Streets (south of Beach Street). In addition to the The Embarcadero, Jefferson and Beach Streets are designated recreational streets. Local streets providing access within the study area include Leavenworth, Jones, Mason and Powell Streets.

EXISTING TRAFFIC CONDITIONS

Operating characteristics of intersections are described by the use of the level of service (LOS) concept. The Level of Service is a qualitative description of an intersection's performance based on delay per vehicle. Intersection Level of Service ranges from LOS A, which indicates free flow



HYDE STREET HARBOR / PIER 45 EIR

Figure 14

TRANSPORTATION STUDY AREA

or excellent conditions, to LOS F, which indicates jammed or overloaded conditions. Refer to Appendix D for more detailed description of the LOS designations for intersections.

Signalized intersections were evaluated using the *Highway Capacity Manual, Special Report 209, TRB, 1985*, intersection analysis method. Unsignalized intersections were evaluated using the *Highway Capacity Manual, Special Report 209, TRB, 1985* operations methodology for intersection delay, outlined in Chapter 10. This method determines the capacity of each movement of the intersection. Level of Service is then based on the average total delay per vehicle for each movement. Level of Service for unsignalized intersections ranges from LOS A, which is generally free-flow conditions with minor delays for minor street traffic, to LOS F, which indicates very long delays for the minor street traffic.

Traffic conditions in the study area were characterized by examining peak-hour operations during weekday AM and PM peak hours, as well as the weekend midday peak hour, at five intersections within the study area. All the analysis intersections in the study area operate at LOS A or B during the weekday and weekend peak hours, indicating that most traffic flows in the study area do not experience excessive delays. The intersection of Jefferson/Powell/The Embarcadero and the intersection of Jefferson/Taylor experience the highest levels of congestion. Weekend traffic volumes are higher than weekday volumes, and the levels of congestion are also somewhat higher during the weekend.

TRANSIT SERVICES

Within the study area, the City's Master Plan designates Jefferson Street, Beach Street, and Hyde Street (south of Beach Street) as Transit Preferential Streets. A transit preferential street is defined as a street where transit vehicles could receive priority treatment for the use of street right-of-way. Transit service in the study area includes San Francisco MUNI bus lines and cable cars, Golden Gate Transit bus lines, and a number of ferry operators.

There are six existing MUNI lines directly serving the study area, #19, #30, #32, #39, #42 and #15. Figure 15 shows the routes of these six lines and the bus stop locations. Table 8 summarizes bus route descriptions, service frequencies and load factors.

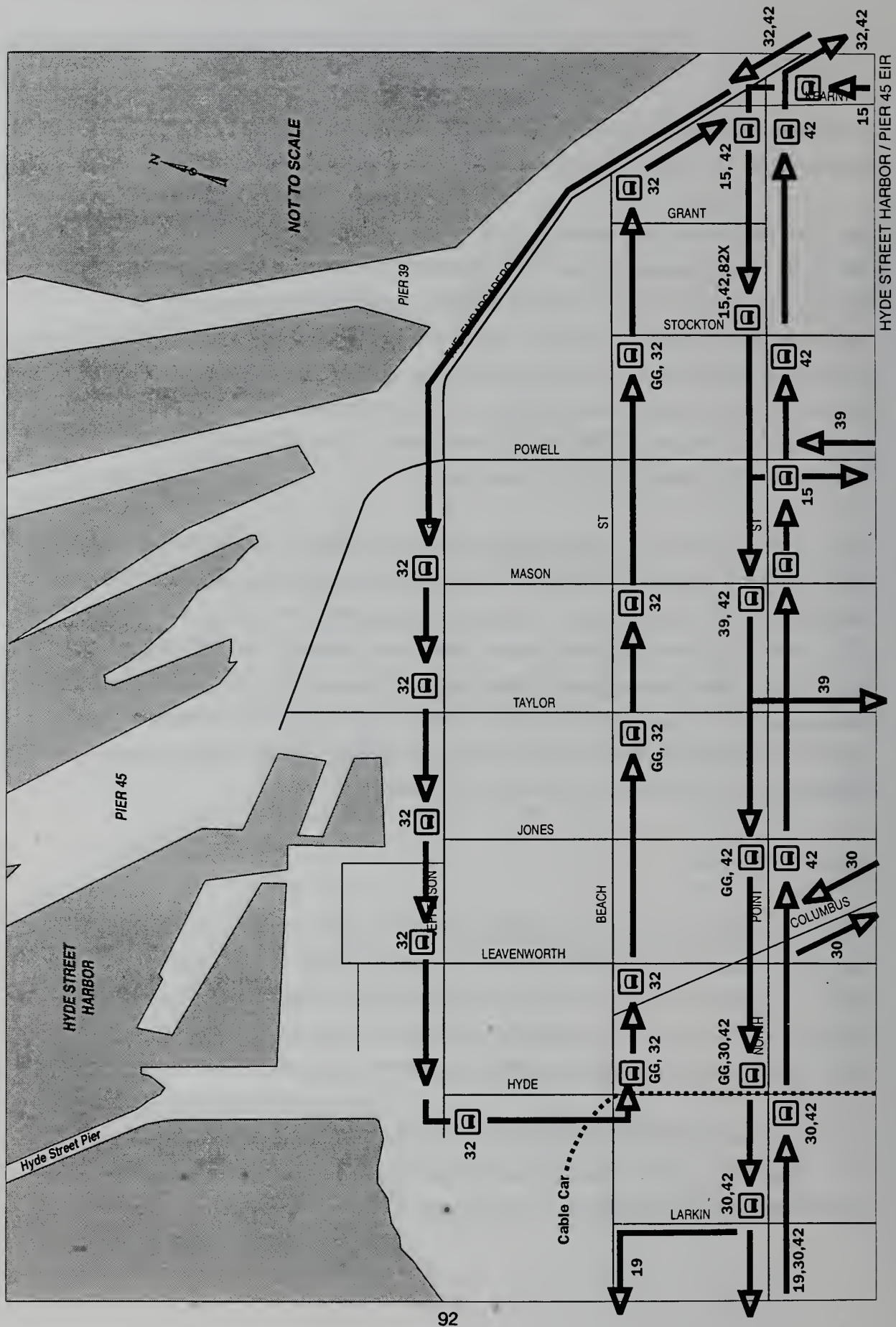


Figure 15 EXISTING TRANSIT NETWORK AND STOP LOCATIONS

In order to achieve an efficient transit system, MUNI's goal is to not exceed the peak load factor standards for each type of transit vehicle. The peak load factor is defined as the ratio of passengers to seats during the peak hour. When the passenger to seat ratio exceeds 1.00, the transit vehicle is operating with patrons exceeding the seating capacity and with patrons standing in the aisle. The peak load factor for lines operating with motor coaches is 1.55 and for cable car lines, the optimal peak load factor is 2.0. Since the load factors presented below are based on ridership levels at the route's maximum load point, they may be lower in the vicinity of the project site. All bus lines operate with excess capacity during the AM and PM peak hours.

Table 8 MUNI Transit Routes

Bus Route	Route Description	Headways (minutes)	Peak Load Factor (Weekday)
19	Polk	10 (AM peak) 15 (PM peak) 20 (weekend midday)	1.66 (AM peak) 1.14 (PM peak)
30	Stockton	4 (weekday AM & PM peak) 6 (weekend midday)	1.38 (AM peak) 1.42 (PM peak)
32	Embarcadero	12 (weekday AM & PM peak) 20 (weekend midday)	0.73 (AM peak) 1.00 (PM peak)
39	Coit Tower to Northern Waterfront	30 (AM peak) 20 (PM peak) 20 (weekend midday)	0.12 (AM peak) 0.50 (PM peak)
42	Downtown Loop	9 (weekday AM & PM peak) 20 (weekend midday)	1.39 (AM peak) 1.25 (PM peak)
15	Third Street Crosstown	5 (AM peak) 6 (PM peak) 10 (weekend midday)	1.39 (AM peak) 1.15 (PM peak)
Powell-Hyde Cable Car	Powell & Market to Hyde & Beach	10 (AM peak) 6 (PM peak) 6 (weekend midday)	0.92 (AM peak) 2.22 (PM peak)

Source: Kolve Engineering, Inc.

Two cable car routes serve the Fisherman's Wharf area, connecting with the Union Street retail and hotel district. The Powell-Hyde Street cable car operates within the study area's western boundary and terminates north of the intersection of Beach and Hyde Streets. The Powell-Mason line terminates outside of the study area south of Bay Street on Taylor Street. In general, during the weekday PM and weekend midday peak periods, the cable cars operate at full capacity.

Golden Gate Transit, serving Marin County, travels through the study area and shares MUNI bus stops on Beach Street, and on North Point Street just south of the study area. Two basic bus routes and 19 commuter hour express bus lines provide services in the study area. Only alightings are allowed from Golden Gate Transit buses destined to San Francisco from Marin and Sonoma Counties, and conversely, only boardings are allowed onto Golden Gate buses destined to Marin and Sonoma Counties from San Francisco.

Ferry service to the study area is provided by a number of ferry operators between Pier 39 and Pier 43-1/2. Service includes the Red and White fleet service between Pier 43-1/2 and Sausalito, Tiburon and Angel Island, and the Blue and Gold Service between Pier 39 and Vallejo, and also between Pier 39 and Oakland/Alameda. In addition, the Red and White fleet provides ferry service to Alcatraz from Pier 41. The ferry service at Fisherman's Wharf is generally recreational service, as commute service is provided to the Ferry Building, located at the foot of Market Street in downtown San Francisco.

PARKING FACILITIES AND USE

Off-Street Parking

Nineteen parking facilities within the study area were surveyed in February 1995. A total of 3,850 spaces are available at these off-street parking facilities, of which 461 are private parking spaces, and 3,389 are public parking spaces. The midday off-street parking occupancy for the study area is higher on weekends than on weekdays. The average occupancy rate for all facilities is 56% for the weekday midday peak period, and 74% for the weekend midday peak period.

The average occupancy rates for the public facilities are 55% and 74% for the weekday and weekend peak periods, respectively, and 66% and 73% for the private facilities for the weekday and weekend peak period, respectively. Some of the public parking facilities, such as the Pier & Wharf Parking on Beach Street and Fisherman Wharf Parking surface lot have higher occupancy rates (92% - 106%) during the weekends than other facilities due to their proximity to major tourist attractions.

On-Street Parking

On-street parking is permitted within the study area, however, much of the on-street parking is restricted for special purposes, such as tour bus parking and truck loading/unloading, or limited to two-hour metered parking. An on-street parking survey was conducted to determine early morning and afternoon parking activity. From the hours of 5:00 to 8:00 AM, the on-street parking on Jefferson Street between Taylor and Hyde Streets is fully utilized by delivery trucks and the trucks that are part of the commercial fish trading. By midmorning, curb parking is generally fully occupied by visitors and employees, and a number of vehicles were observed illegally parked in No Parking zones, in driveways and between meters.

PEDESTRIAN CIRCULATION

The project study area is within the heart of the tourist area of Fisherman's Wharf. Nearly all access to businesses and attractions at the Wharf is made by walking, either from cable cars, buses, parked autos or nearby hotels. In the study area, The Embarcadero, Jefferson Street and Beach Street are designated in the Master Plan as recreational streets, and in addition to Taylor Street, are the major pedestrian routes in the area. (A recreational street is a special category of street, whose major function is to provide for slow pleasure drivers, cyclists and pedestrian use.) Pedestrian activity levels are generally light in the morning, and increase following the opening of stores between 9:00 and 10:00 AM.

Weekday and weekend midday peak hour pedestrian counts were conducted on March 16 and 25, 1995 for all the four crosswalks at the intersection of Taylor Street and Jefferson Street. The

existing LOS for these crosswalks was calculated using the methodology outlined in Chapter 13 of the *1985 Highway Capacity Manual*. The intersection of Jefferson/Taylor is located in the center of the entire Fisherman's Wharf tourist district. The total pedestrian volumes during the weekend peak 15-minute period are approximately 1.4 times higher than the weekday volumes.

Operating conditions on crosswalks are measured by pedestrian density, square feet of crosswalk space per pedestrian (sq.ft. /ped). Typically, an upper limit for desirable conditions is 15 sq.ft./ped or LOS D. The LOS is presented for "maximum surge" conditions, which represent the conditions at opposing ends of the crosswalk when the WALK phase begins as two opposing platoons simultaneously step onto the crosswalks.

Weekday Midday Conditions: During the weekday midday peak 15-minute period, the four crosswalks experience LOS B (south and west crosswalks), and LOS C (north and east crosswalks) conditions.

Weekend Midday Conditions: During the weekend midday peak 15-minute period, the level-of-service for all four crosswalks changes noticeably from weekday midday conditions. The LOS at the south crosswalk worsens from LOS B to C, whereas the north and west crosswalks experience LOS D. The east crosswalk, with the heaviest pedestrian volumes operates at LOS E. This indicates that the capacity of the crosswalk is reached and there is limited space to pass slower pedestrians.

In the immediate vicinity of Pier 45, on Taylor Street between The Embarcadero and Jefferson Street, and on The Embarcadero between Taylor Street and Powell Street, pedestrian activity levels are congested during the weekday and weekend midday peak periods. This is due primarily to the restaurants on the west side of Taylor Street, which essentially "extend" their operations onto the sidewalks, and the tour bus drop-off and pickup activities on the north curb of The Embarcadero (the south side does not have any sidewalks). During the midday peak periods, pedestrian traffic on the north sidewalk was observed to be slow moving (typical of tourist activities) and congested.

TRUCK TRAFFIC

Truck Percentages

Vehicle classification counts were conducted at the five study intersections, and at the intersection of The Embarcadero and Taylor Street, to determine the percentage of trucks during the peak periods. During the weekday AM peak hour, the heaviest truck activities (10.7%) occurred at the intersection of The Embarcadero and Taylor Street (nine trucks entering and exiting Pier 45), and the truck percentage for the remaining five intersections range from 0.6% to 2.5% of the total vehicles. During the weekday PM peak hour, the intersection of The Embarcadero and Taylor Street again exhibits the highest truck percentage (1.9%). The truck percentages at the remaining five intersections range from 0.6% to 1.0% of the total vehicles.

During the weekend midday peak hour, the overall truck percentage decreased slightly as compared to the weekday AM and PM peak periods. The intersection of The Embarcadero and Taylor Street intersection has the highest truck percentage (1.8%) while the truck percentage for the remaining intersections range from 0.2% to 0.9% of the total vehicles recorded.

Morning Fish Trading Activity

Truck activities during the early morning period between 5:00 - 8:00 AM, were observed on a number of days, and recorded for April 12, 1995. The purpose of the observation was to determine whether there are any existing conflicts between trucking activity and vehicular and pedestrian traffic. The observation was made along Jefferson Street, between Jones and Hyde Streets where most of the fish trading trucking activities are concentrated. The heaviest trucking activity occurs at around 6:30 AM along Jefferson Street between Jones and Leavenworth Streets.

Since both auto and pedestrian activities are either minimal or absent during these early hours, there are no major conflicts. However, since both sides of the sidewalks between Jones and Hyde Streets on Jefferson Street are involved with loading activities, joggers and swimmers going between the clubhouse and Pier 39 were observed walking and running along the middle of Jefferson Street to bypass this two-block section.

PLANNED ROADWAY AND TRANSIT IMPROVEMENTS

Within the study area there are two planned improvements that would affect traffic conditions in the area of the proposed Project. These improvements include the construction of the electric street car line (F-Market line) along The Embarcadero to the northern waterfront, and improvements/relocation of the entrances and exits of the Pier 39 garage.

MUNI F-Market Line

The extension of the historic MUNI F-Market line into the Northern Waterfront is currently either in construction (section between Broadway and North Point) or in design stages (Mid-Embarcadero and Lower Market sections). This surface electric streetcar service will be provided from Upper Market at Castro Street to the waterfront via Market Street, and north to Fisherman's Wharf via The Embarcadero, Jefferson Street and Beach Street. Streetcars already operate on Market Street from Upper Market to First Street, and it is anticipated that streetcar service from First Street to Fisherman's Wharf will be implemented in 1999.

In the vicinity of the proposed project, the F-line will be side-aligned on The Embarcadero and on Jefferson Street. At Jones Street, it will loop to Beach Street, and continue southbound on Beach Street to The Embarcadero. Detailed design has not been completed for this section of the F-Market line. However, it is assumed that on Jones and Beach Street, the F-Market line will share the curb lanes (right turn lanes) on Jones and Beach Streets with vehicular traffic.

The F-Market line service would consist of seventeen PCC cars, and will operate at approximately 7.5 minute headways during the peak hours, and 15 minute headways during non-peak hours. The route is anticipated to serve commute riders as well as tourists. The F-Market line will provide a tourist-oriented alternative similar to cable cars. Upon completion of the F-Market line, the MUNI #32 line will be terminated. The F-Market line would accommodate the #32 line patrons and a portion of the existing and new cable car trips, which would switch to the F-Market line. In addition, it could be anticipated that some visitors currently driving to the area would shift to the F-Market line. The new service will provide a convenient link (no transfers between lines would be required) between Market Street and the northern waterfront.

Pier 39 Garage

Planned improvements to the entrances and exits at the Pier 39 garage would affect the existing geometries at the intersection of Jefferson/Powell/The Embarcadero. The entrance/exit will be relocated from Powell Street to The Embarcadero, Stockton and Beach Street. This would result in the elimination of the exclusive lanes dedicated to the garage entrance and exit on The Embarcadero and Powell Street. The entrance to the garage will be from Beach Street, and the exit will be on The Embarcadero south of Powell Street and on Stockton Street.

Roadway geometry changes associated with this entrance/exit relocation include the provision of a left turn pocket from The Embarcadero westbound onto Powell Street southbound, one southbound lane on Powell Street between The Embarcadero/Jefferson Street and Beach Street, and the restriping of the two northbound lanes on Powell Street to one northbound through lane and one northbound through/left lane.

H. HAZARDS

The Hazardous Materials Setting presents an overview of the hazardous materials regulatory framework and an overview of existing site conditions related to proposed construction activities for the Harbor Services Facilities. A site history for the area of the new facilities has been prepared to provide a basis for evaluating the potential presence of hazardous materials in the soil where soil would be excavated for utility lines. Reconstruction of the Hyde Street Pier and renovation of Sheds A and C would not involve the excavation of soil and a site history has not been prepared for these areas.

DEFINITION OF A HAZARDOUS MATERIAL/WASTE

Hazardous materials are generally considered to be substances with certain chemical or physical properties which may pose a substantial present or future hazard to human health or the environment when improperly handled, stored, disposed or otherwise managed. In general, discarded, abandoned, or inherently waste-like hazardous materials are referred to as hazardous wastes. A material is a hazardous waste if it poses a threat to human health or the environment.¹ Hazardous materials and hazardous wastes are defined in the *California Code of Regulations*, Title 22, Sections 66260 through 66261.10. As defined in Title 22, hazardous materials are grouped into four general categories: toxic (causes human health effects); ignitable (has the ability to burn); corrosive (causes severe burns or damages materials); or reactive (causes explosions or generates toxic gasses). A hazardous waste can be present in a liquid, semi-solid, solid, or gaseous form.

REGULATORY FRAMEWORK

Hazardous materials and hazardous wastes are regulated by federal, state, regional, and local laws and regulations with the objective of protecting public health and the environment. In general, these regulations provide definitions of hazardous substances; establish reporting requirements; set guidelines for handling, storage, transport, remediation and disposal of

¹ California Code of Regulations, Title 22, Section 66261.2.

hazardous wastes; and require health and safety provisions for both workers and the public, such as emergency response, worker training programs, and health and safety plans. Sites which are subject to these regulations, including underground storage tank sites, are identified on periodically updated published lists at the federal, state, and local levels. The dredging and disposal of Bay sediments is also regulated at the federal, regional, and state levels.

Some major agencies enforcing these regulations include: the U.S. Environmental Protection Agency (federal); the California Environmental Protection Agency (State) consisting of the Department of Toxic Substances Control, the State Water Resources Control Board, and the California Air Resources Board as well as other state agencies. ; the San Francisco Department of Public Health, Bureau of Toxics, Health, and Safety Services (local); the San Francisco Fire Department (local); the U.S. Army Corps of Engineers (federal); and the Bay Conservation and Development Commission (regional). The San Francisco Bay Regional Water Quality Control Board works with the State Water Resources Control Board and enforces regulations on a regional basis. The Bay Area Air Quality Management District (BAAQMD) works with the California Air Resources Board and enforces regulations on a regional basis. Appendix E presents a description of the major hazardous materials regulations and the agencies implementing them.

SITE HISTORY

Installation of the proposed utilities for the new Harbor Services Facilities would include the excavation of soil that could potentially contain hazardous materials because of previous land uses adjacent to the alignment or because hazardous materials may have been contained in materials that were used to fill the area. If hazardous materials are present, special measures may be required to protect human health and the environment during the installation of the utilities, and specific handling and disposal methods may also be required for the excavated soil. Article 20 of the San Francisco Public Works Code (the "Maher" Ordinance) requires applicants for building permits to prepare a site history for any project bayward of the historic high tideline indicated on Historic San Francisco Maps that would involve the excavation of 50 or more cubic yards of soil.

Portions of the proposed project, including the location of the proposed utility alignment, are bayward of the historic high tide line. A site history has been prepared for the area of the proposed utility alignment (shown on Figure 16) to comply with the "Maher" Ordinance because it is expected that installation of the utilities would require excavating greater than 50 cubic yards of soil.² The site history is described below and Table E-1 in Appendix E summarizes the previous land uses. The address of each site referenced is shown on Figure 16. (See also, IV ENVIRONMENTAL IMPACTS, H. Hazards)

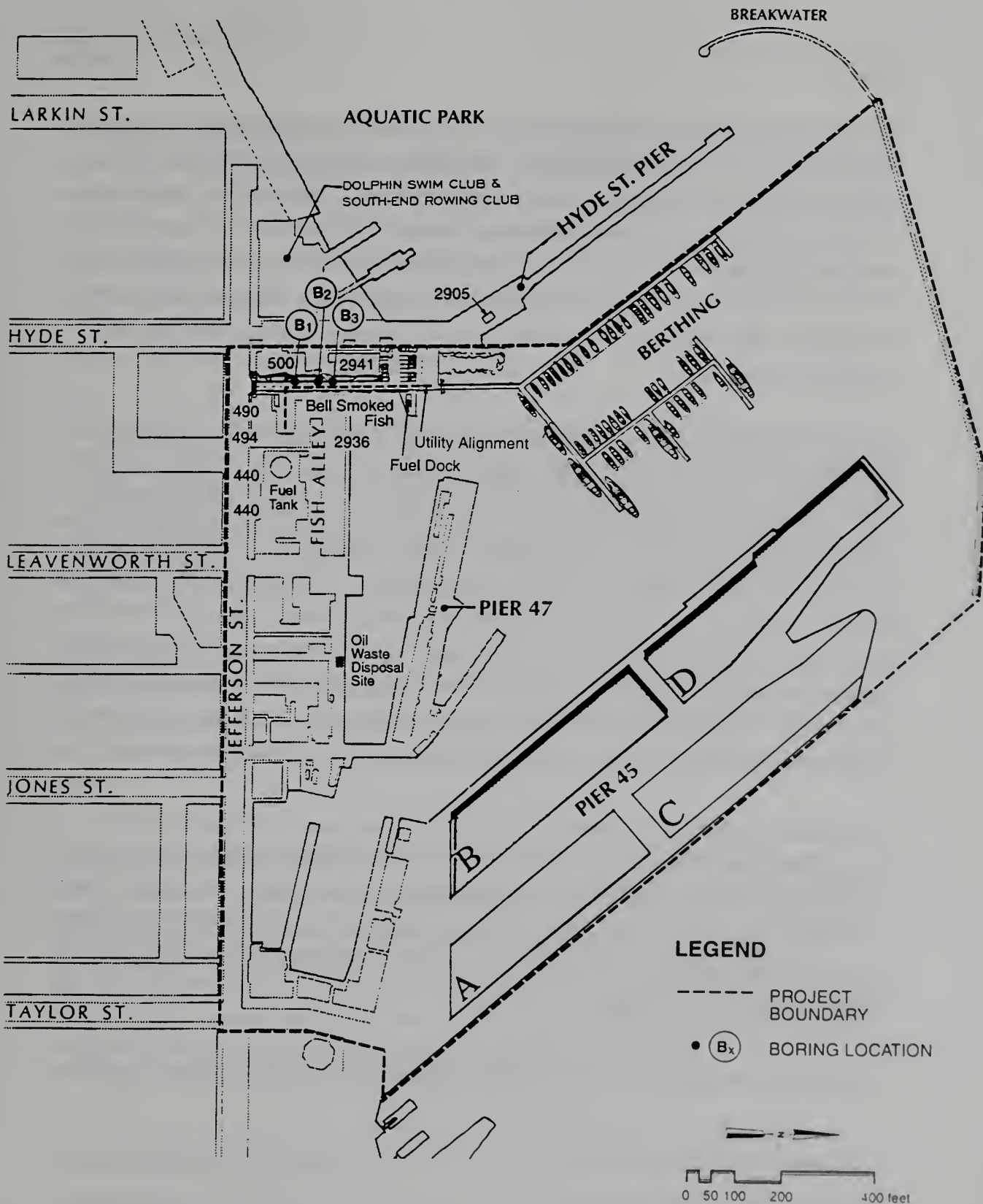
Vicinity of Proposed Utility Alignment to Harbor Service Facilities

Previous land uses to the immediate south of the proposed utility alignment (part of the Harbor Service Facilities) are identified in this section because of heavy industrial usage with potential disposal of waste in the location of the proposed alignment. From 1864 to 1865, Selby Smelting and Leadworks was constructed on the block bound by Jefferson, Hyde, Beach and Leavenworth streets. For twenty years, lead-based and other ores, including galena (a lead-based ore), were refined at this facility using the Pattison process to separate gold and silver from the ores. The ore was brought by train to the smelter where it was crushed and then heated to remove impurities and separate the metals. The smelter reportedly dumped slag (waste ore remaining after processing) into the Bay off of the wharf; the location was approximately at the line of Jefferson Street between Hyde and Leavenworth streets. The smelter shut down in 1885.³

The Equitable Gaslight Company was incorporated in February 1898 and constructed a

² The following sources were reviewed to complete the site history: aerial photographs dated 1935, 1948, 1963, 1969, 1975, 1981, 1986, 1991, and 1994; Sanborn maps (fire insurance maps which show the historic configuration of properties including the presence of features such as above and below ground tanks) dated 1899, 1913, 1948, 1950, 1974, and 1994; Archeological/Historical Consultants A Cultural Resources Overview of the Fisherman's Wharf Seafood Center Project Area and Environs, March, 1989; Polk and Haines Criss Cross San Francisco City Directories; San Francisco Fire Department files, including underground tank permits; San Francisco Department of Public Health Sites and Tank Listings by Site Address dated December 21, 1994; and San Francisco Department of Public Health Sites and Tank Closure Report by Site Address dated December 21, 1994.

³ Archeological/Historical Consultants, 1989. A Cultural Resources Overview of the Fisherman's Wharf Seafood Center Project Area and Environs. March. Available for review at the Planning Department, 1660 Mission - 4th Fl. (Part of the technical files for this EIR, available for review at the Planning Department, 1660 Mission Street, Fourth Floor.)



HAZARDS SITES IN STUDY AREA

FIGURE NO. 16

manufactured gas plant on the site of the smelter.⁴ The plant was originally intended to use the Hall process to produce manufactured gas. This process reportedly used coal as its main feedstock and a coal wharf was located along Jefferson Street. The 1948-1994 Sanborn maps show a 47,000-gallon above-ground crude oil tank located at the intersection of Hyde and Jefferson Streets and two gas holders, each capable of holding 180,000 cubic feet of gas. To the east of the holders, there were gas generators and purifiers. The fuels used were reportedly coal and oil. There was a pipe shop located within the plant and a portion of the plant was constructed on refuse fill.

Attempts to use the Hall process failed and the plant was converted to a small "water gas" plant in 1899 to 1900.⁵ This process involved steam heating crude oil and capturing the resulting gas. The gas was then scrubbed and purified and stored prior to distribution through pipes to various points of consumption. Available Sanborn maps do not show the configuration of this plant. In December 1900, the plant suffered an explosion in the engine room when a water tank reportedly crashed through the roof of the main building and ruptured underlying pipelines which subsequently exploded. The facility was flooded with water from the tank. Oil may have been spilled as a result of the explosion and spread with the flood. The plant was purchased by the San Francisco Gas and Electric Company in August 1903 and then completely destroyed in the 1906 earthquake and fire. It was reportedly not in use at that time and was never rebuilt.

The California Fruit Cannery Association, North Point Cannery was constructed on the same block as the manufactured gas plant in 1907 to 1909.⁶ The warehouse facilities were located in the western portion of the block and the processing facilities were located in the eastern portion of the block. The 1913 Sanborn map shows three 3,000-gallon underground storage tanks and one 15,000-gallon underground storage tank used for the storage of crude oil. A portion of the facility was used for box printing.

The 1948 Sanborn map shows that the old Cannery building was owned by Haslett Warehouse

⁴ Archeological/Historical Consultants, 1989.

⁵ Archeological/Historical Consultants, 1989.

⁶ Archeological/Historical Consultants, 1989.

Company and the 1950 Sanborn map shows that a portion of the site was used by the Warehouse Service Company, also for storage. The 1994 Sanborn map shows that the eastern portion of the block was used by the Cannery for arcade store, bazaars, restaurants, and market places. The western portion of the block was either vacant or used as offices. The three-3,000 gallon underground storage tanks are no longer shown on the 1948 Sanborn map but the 15,000-gallon underground storage tank is still shown through 1994.

Proposed Utility Alignment to Harbor Service Facilities

The site of the proposed utility alignment was filled on several occasions. As stated above, it is reported that smelter waste was dumped off the wharf along Jefferson Street prior to 1885. After the 1906 earthquake and fire, tons of earthquake debris were also dumped along the tideline of the North Beach region;⁷ this was the first stage of the major filling within the project area. The 1913 Sanborn map shows that area to the north of Jefferson Street was beginning to be filled. The location of the proposed utility alignment was primarily submerged.

By 1914 the California Belt Railroad was built along Jefferson Street to transport materials needed to build the structures and exhibits of the 1915 Panama Pacific International Exposition in the Marina District.⁸ To reach the Marina it was necessary to tunnel beneath Fort Mason, and rock from the tunnel was used to build an embankment in the area of Hyde and Larkin streets.

The second major stage of filling within the project area was the construction of an outer breakwater along the Embarcadero between Jones and Hyde streets from 1916 to 1917.⁹ This included the construction of a wing wall extending along Hyde Street to Jefferson Street. The area within the breakwater was then dredged to form a lagoon for the fishing boats of Fisherman's Wharf. Over the next few years, the State Harbor Commission built several wharves within the project area for the fishing industry. These wharves were typically constructed on creosoted timber piles with concrete decks or asphalt covered timber decks.

⁷ Archeological/Historical Consultants, 1989.

⁸ Archeological/Historical Consultants, 1989.

⁹ Archeological/Historical Consultants, 1989.

The final stage of filling in the project area took place in the 1920s and early 1930s when the Hyde Street Pier and Pier 45 were built and the Aquatic Park was completed. The Hyde Street Pier was built in the 1920's to provide accommodations for the Golden Gate Ferry Company which provided service to Sausalito and Berkeley. Later, two ferry slips and a parking wharf were built at the base of Hyde Street; the main aprons were constructed of structural steel. Pier 45 was constructed on filled land in 1928 to 1929. In the early 1930s the Municipal Pier at the Aquatic Park was constructed. Simultaneously, another pier was constructed out from the Hyde Street Pier towards the Municipal Pier.

Specific land uses on the pier and along Jefferson Street near the proposed utility alignment are described below:¹⁰

Hyde Street Pier. Historic land uses on the Hyde Street Pier include a fish dealer, two gas stations, a refrigeration company, a U.S. Coast Guard rescue station, a netroom, and a San Francisco State Historical Park. Gateway Shipwright, Harbor Fisheries, and Marine Engine Filters were also located on the pier at one time, but the type of business was not specified for these companies. Currently the pier is used as a park and the Mobil Oil gas station remains.

2905 Hyde Street. A building is located at this address on the Hyde Street Pier. It has been a San Francisco State Historical Monument, and occupied by the Golden Gate Recreational Area, The Maritime Store, and Maritime Programs.

2936 Hyde Street. This address was occupied by Oswald Machine Works from approximately 1948 to 1971 for diesel engine repair. From 1980 to 1995 this address has been used as a fish handling facility by two companies.

¹⁰ Review of San Francisco City directories allowed identification of specific occupants on the pier and along Jefferson Street near the proposed utility alignment. In some cases, the name of the occupant was available, but the type of business was not specified. Although City Directories are available for dates prior to 1953, the earlier directories do not list occupants by address and it is not possible to identify occupants of a specific address. Because of this, actual occupants of a property prior to 1953 could not be identified. In addition, City Directories subsequent to 1970 did not identify occupants on the Hyde Street Pier and the actual end date for certain occupants of the Pier may not be accurately reflected.

Sanborn maps were used to confirm the location of the businesses and to also identify several land uses that were not indicated by review of the City Directories. In many cases, the actual name of the occupant was not included on the Sanborn map.

2941 Hyde Street. This address was occupied by Oswald Machine Works as an engine repair facility beginning in 1974.

500 Jefferson Street. This address was a small building located at the base of Hyde Street, it is no longer present and 500 Jefferson Street is located across Hyde Street to the west. Sanborn maps for 1948 and 1950 indicate that this building was used for painters' storage.

498 Jefferson Street. Land uses at this address from 1953 through the present include restaurants and a gift shop.

496 Jefferson Street. This address has been used as a ship chandlers since 1953.

494 Jefferson Street. Based on the names of the occupants, this address has been used for various office purposes from 1954 through 1989. It has been vacant from 1990 through present. From 1985 through 1987 part of this property was used by Interocean Seafoods and from 1986 to 1989 part was used by France Foods. It is uncertain whether either of these businesses involved fish or food handling.

490 Jefferson Street. This property was occupied by Bell Smoked Fish from approximately 1948 to 1983 as a fish smoking business. Based on the names of businesses located at this property since 1983, it has been used primarily as office space from 1984 through the present. The Greek Fisherman occupied part of the property in 1984. San Francisco Smoked Fish occupied the part of the property in 1987. These businesses may have included fish smoking or fish handling operations.

440 Jefferson Street. This is the same address as Alioto Fish Company (described below), but located to the west. Based on information from Sanborn maps, General Petroleum Resources has operated a large above ground tank at this location from approximately 1948 through 1994. This address is not identified in the City Directories. Additional information identified through review of Port and regulatory agency files indicates that this bulk plant was previously owned by Mobil Oil and that in 1990, General Petroleum Resources was in the process of refurbishing the 200,000 gallon above ground diesel tank. At that time, fuel was being dispensed from an existing

20,000-gallon above ground tank. There was a spill of diesel from overfilling the above ground tanks in 1990. The above ground tanks have been removed and will be reinstalled on this property. Fire Department files indicate that there was also a 2,500-gallon product underground storage tank removed from this site on September 30, 1992. Petroleum related compounds have been identified in the soil and groundwater and a site remediation is underway.

440 Jefferson Street. This property has been occupied by Alioto Fish Company as a fish handling facility from 1957 through the present; the City Directories identified several other fish handling businesses at the property at various times. The Fire Department files include a permit to install a gasoline dispenser dated December 28, 1971. This indicates the potential presence of an underground storage tank, although records do not identify a permitted underground storage tank.

HAZARDOUS MATERIALS SITE ASSESSMENTS AND INVESTIGATIONS

During planning of the previously proposed Fisherman's Wharf Seafood Center in 1989, AGS, Inc. conducted a soil investigation¹¹ under contract to the Port of San Francisco to assess soil quality within the proposed utility alignment. For this investigation, three soil borings were installed and a soil sample from each boring was chemically analyzed for Title 22 metals (including lead) and petroleum hydrocarbons (see Figure 16). The results of the analysis are described in Section IV.H, on pages 164-169.

¹¹ AGS, Inc., 1989. Field Sampling and Chemical Laboratory Testing, Fisherman's Wharf Seafood Center. August 22, 1985.

IV. ENVIRONMENTAL IMPACTS

An application for environmental evaluation for the project was filed on December 28, 1994. an Initial Study of the proposed project was published on May 10, 1994, and it was determined that an Environmental Impact Report (EIR) would be required for the project. Issues determined to require no further discussion as a result of the Initial Study include:

- Land Use -- established community; character of vicinity and Zoning (however, Master Plan Conformity is addressed)
- Visual Quality -- aesthetics; views; glare
- Population -- growth inducement; new employment; demand for new housing, displacement of existing residences or businesses
- Noise -- construction, ambient levels
- Air Quality/Climate -- construction, ambient air quality standards; wind, moisture, temperature, shading (however, odors and boat emissions are addressed)
- Utilities/Public Services -- demand for schools, recreation, other similar public facilities (however, water and sewer are addressed)
- Biology -- scenic trees (however, marine biology is addressed)
- Geology/Topography -- seismic/geologic hazards; unique physical features
- Energy/Natural Resources -- use/depletion of fuel, water or energy
- Cultural -- disruption of archaeological site or property of historic significance (however, a Cultural Resources Mitigation Measure is included as part of the project)

Therefore, the EIR does not discuss these issues, except to orient the reader or address specific sub-topics as required by the Initial Study and noted above. (See Appendix A, page A.1 for the Initial Study.)

Not all of the impacts presented in this section are physical environmental effects as defined in the California Environmental Quality Act (CEQA). Non-physical effects are included for informational purposes only.

The proposed project would not induce substantial growth or concentration of population, although it would likely increase the daily population on the project site. Any potential increase in the visitor population might be noticeable to immediately adjacent neighbors but would not substantially increase the existing area-wide residential population.

As described previously under Objectives of the Project Sponsor, see PROJECT DESCRIPTION, page 1), the proposed project is intended to accommodate existing fishing industry demand, rather than induce growth of the fishing industry in San Francisco. The provision of additional berthing and support facilities at Hyde Street Harbor would not therefore be expected to stimulate substantial additional physical growth in the vicinity. Facilities proposed for Pier 45, Sheds A and C, would be expected to stimulate economic activity in the area, including generation of revenue to help support fishing industry facilities. The increases in visitors and economic activity due to Pier 45 projects would not be expected to induce substantial additional physical growth in the vicinity, nor would it induce substantial population growth in the City.

A. LAND USE, ZONING AND PLANS

Land uses within the project site, and fishing-related uses in particular, would not be substantially altered by the proposed project. The potential to lease dock space to fishing vessels would allow more control of fishing vessels in the harbor and would minimize the number of rafted and double or triple-tied vessels. The truck-based fish-trading activity would not be expected to change due to the project, other than some trucks would relocate to the "valley" area on Pier 45.

Proposed uses on Pier 45 could include activities new to Sheds A and C, but consistent with fishing- and visitor-related activities in the vicinity. These uses would not disrupt or divide the physical arrangement of an established community, nor substantially change the character of the vicinity. The project would require an amendment to the Northeastern Waterfront Area Plan of the Master Plan which designates hotel, commercial office and residential uses on Pier 45. Any physical impacts are discussed in the appropriate subsections of this chapter.

B. WATER QUALITY

Activities which have been identified as potentially causing water quality impacts to the project area and the adjacent Aquatic Park include the following:

- Fish handling and processing activities could generate wastes that, if improperly disposed of, could affect Bay water quality in the project area;
- Potential for fuel spillage and leakage (including bilge water) from the vessels, fueling activities, equipment failure, and maintenance activities that could directly contaminate the Bay;
- Commercial fishing and other vessels, either permanent or transient, could generate human and other wastes (including "floatables") that could be discharged (albeit illegally) to the nearshore Bay waters;
- Potential for pier and boat deck runoff and washdown to be discharged directly to the Bay;
- Litter and trash generated by harbor users and visitors that could be blown offshore or carried by birds to the Bay; and
- Effects of dredging, filling and other construction activities on Bay water quality.

Each of these activities are discussed in terms of their potential to occur as a result of the proposed project and their potential to affect Bay water quality, based on existing and historical water quality conditions. In addition, potential water quality effects of the proposed project that could in turn affect marine biota are discussed in terms of both short-term construction and long-term operation activities.

FISH PROCESSING ACTIVITIES

An area of concern raised by the public regarding the potential effects of the proposed project is the relationship of bacteriological water quality conditions in the harbor and Aquatic Park and the level of fish processing activities. There has been concern that fish processing may include activities such as discharge of fish wastes to the Bay, either through floor drains or through washdown of the pier and aprons, which would thereby affect the water quality. This section discusses the current and historical levels of fish processing activities, available coliform data and statistical evaluations, and general fish processing and fish handling practices.

Fish Landings Data

The Fisherman's Wharf area is an historical and current center for commercial fishing activities, including handling and distribution of fish and other seafood, as discussed previously under PROJECT DESCRIPTION. In 1988, there were 16 commercial fishing companies on Pier 45.¹ Eleven companies, occupying about 80 percent of the renovated Sheds B and D, were operating at the end of 1995. The fish handled at these companies are either brought to the harbor by boat and off-loaded at the Pier, or brought in overland by truck from other ports. Information on fish landings (fish brought in by boats) from the California Department of Fish & Game for the years 1988 to 1993 for the San Francisco Bay area, which includes the major ports of San Francisco, Bodega Bay, Princeton, Oakland and Sausalito, are shown on Tables 1 and 2, in the PROJECT DESCRIPTION, pages 11 and 12. The data show a decrease in fish landings for the area, discussed below, which could be attributed to a number of factors, including a general decline in the industry, a decline in available fish, and an increase in restrictions placed on commercial fishing. One of the restrictions is the "limited entry" (meant to stabilize a declining species) placed on rockfish by the Pacific Fisheries Institute from over 5 million pounds in 1988 to a little over three million pounds in 1993 for rockfish in the Bay Area.² The damage caused by the 1989 Loma Prieta earthquake at the Pier 45 fish processing facilities may have also contributed to the local decrease in fish landings.

Fish landing data specific to the Hyde Street Harbor/Pier 45 project area, based on the database maintained by the California Department of Fish and Game, was estimated by using data for commercial fishing companies leasing space in the harbor in 1988 (prior to the Loma Prieta earthquake) and in 1993. Information on pounds of fish landings in the project area for the two years was compared with the information for two other Bay Area ports (Bodega Bay and Princeton) to ascertain if some commercial fishing activity has relocated from the Hyde Street area to these ports during the seismic retrofit work on Pier 45 and to see if the trend at the Hyde Street Harbor is similar to trends at other Bay area harbors, shown in Table 2, page 12.³

¹ E.J.L. & Associates, 1995. Data collected from California Department of Fish and Game. Fish landing receivers in 1988 included North End Fish Co., Larocca Seafood Inc., Morgan Fish Alioto Fish Co., Blue Pacific Industries, Fisherman's Wharf Seafood, Marine Reef Fisheries, Standard Fisheries Corp., Golden Seas Fisheries, Meatball Bait Distributer, ICM, Alioto Seafood, Cato Fisheries, Long's Fish Company, Monterey Fish Company, and United Shell Fish Company. Fish landing receivers on Pier 45 in 1993 included North End Fish Company, Larocca Seafood, Morgan Fish Co., Golden Seas Fisheries, Meatball Bait Distributer, and ICM.

² California Department of Fish and Game, 1995.

³ E.J.L. & Associates, 1995. Commercial Fish Landing Data for San Francisco Pier 45 based on Landing Receivers for 1988 and 1993 from California Department of Fish and Game data.

The data indicate that the Fisherman's Wharf/Pier 45 project area accounts for about 30 percent of the total fish landing within San Francisco Bay, and the project area experienced about a 60 percent decrease in fish landings (or about 4.9 million pounds) between 1988 and 1993. This can be compared to the overall decrease in fish landings for the San Francisco Bay during this period of about 50 percent (or 11.3 million pounds). Bodega Bay also experienced a reduction in fish landings of about 45 percent or 6.9 million pounds during this same period. Princeton, however, was the only port that experienced an increase during this period, about 0.8 million pounds, which offset the overall San Francisco Bay decrease of 50 percent by only 7 percent. Therefore, it can be assumed that since other ports in the area also experienced a similar decrease in fish landings, the decrease in fish landing poundage received at the Hyde Street Harbor/Pier 45 was apparently due to factors in addition to earthquake-related relocations. Completion of the earthquake improvements at Pier 45 would not be expected to be sufficient incentive for fish landings to return to pre-earthquake levels.

The proposed improved berthing for commercial fishing vessels and improvements to harbor facilities would likely encourage the return of some of the fish handling activities to the Fisherman's Wharf area that relocated following the 1989 earthquake, but as described above, it is unlikely that the level of fish handling activities would return to 1988 levels.

Bacteriological Water Quality

As discussed in the ENVIRONMENTAL SETTING, water quality sampling conducted in May 1995 indicated that total coliform concentrations ranged from 300 to 1600 MPN/100 mL within the Inner and Outer Harbor areas. These levels do not exceed the maximum bacteriological criterion for water contact recreation for a single sampling event, but compliance criteria for bacteriological standards are based on sampling over a thirty-day period. Historical coliform data collected by the Department of Public Works from 1991 to 1992 collected several times per week show a wide range of coliform levels over the course of the year, sometimes meeting the standards and sometimes exceeding the standards. If the standards are exceeded, the City is required to post warning signs at the beaches restricting water-contact sports until the standards are met.

Statistical correlation of the coliform data in Aquatic Park and waterfront locations west of the project area (Presidio and Crissy Field) from 1991 to 1992 indicated a statistically significant correlation of levels of coliform with rainfall data for the previous 24-hour period. However, correlations between coliform levels in the project area (Inner and Outer Lagoons) and rainfall were not statistically significant for the same period. The coliform data at the two westernmost stations also showed a statistically significant relationship with neap tides during the sampling period. No positive correlations were found between coliform data at any stations and fish/crab landings for this period.⁴

There is no indication of a relationship between levels of coliform data in the harbor waters and fish landing data or fish processing activities. Other sources of coliform bacteria are known to be present in the project area, such as wet weather sewer overflows which contain untreated sewage diluted with rainfall and urban runoff. The statistically significant correlation between coliform levels and rainfall at Aquatic Park and other stations west of the project site would support this conclusion. Fish processing and waste handling practices, as discussed below, indicate that no discharges occur to the Bay. There appears to be no direct relationship between fish processing activities and bacteriological water quality. Other sources, such as wet weather sewer overflows to the Bay, appear to be more directly associated with coliform levels.

Fish Processing and Waste Handling Practices

The existing fish processing uses of Sheds B and D are not expected to contribute to water quality degradation because of recently completed improvements to the fish processing areas as well as Health Department regulations for food handling. The seismic repairs at Pier 45 completed in August 1995 include new fish handling facilities, floor drains for washdown water that connect to the City's sanitary sewer, and floor sinks and solids separators in each lease area. The solids separator sinks are connected to a sump, which connect to the six-inch sewer line that is connected to the sewer system. The solids traps in the floor sinks are cleaned regularly and solids are disposed of in trash cans, which are then transported off-site daily to a rendering facility to be made into fishmeal. Fish processing activities primarily take place within

⁴ SOMA Corporation, 1995. Statistical Evaluation, Aquatic park Coliform Data, Hyde Street Harbor EIR, San Francisco, CA. April 7, 1995. Available for review at the Planning Department, 1660 Mission Street, in the project files #93.574E.

the sheds, and not on the apron, so that no fish waste is washed off the apron into the Bay. None of the fish wastes drain or are discharged to the Bay. The fish processing companies are also inspected routinely by the state and local Health Department for sanitary conditions.

Any increased level of fish processing activity that could be associated with improved harbor facilities due to the proposed project would be subject to similar fish handling and waste disposal practices as the existing activities in Sheds B and D. Consequently, with similar to existing practices being utilized, any incremental increase in level of fish processing activity would not be expected to affect Bay water quality.

FUEL SPILLS AND OTHER ACTIVITIES FROM BOATS

There are numerous activities associated with boating, whether commercial or recreation, that can potentially affect water quality. These include potential fuel spills (oil, diesel, and gasoline), bilge pumping (which can contain fuels and heavy metals), garbage and debris thrown or blown overboard, and washdown water from boat maintenance and cleaning.

Fuel spills to the Bay are currently regulated under provisions of the federal Clean Water Act and the California Oil Spill Response Act. Enforcement of these provisions is under the jurisdiction of the U.S. Coast Guard and the California Department of Fish and Game. These agencies as well as the California Regional Water Quality Control Board, and the U.S. Environmental Protection Agency must be notified in the event of any oil or fuel spill (see Appendix B for Oil Spill Notification List). The Coast Guard has enforcement authority over any amount of oil or product that creates a sheen on the water, either from the fuel tank, bilge water or other boat-related sources. In the event of a fuel spill, the Coast Guard's current policy is to send investigators to the scene of the spill to determine the source. If the owner or operator is located, the Coast Guard assesses a civil penalty and requires the owner/operator to clean-up the spill. The Department of Fish and Game also has authority to assess penalties for spills (\$25,000 per incident is the usual fine).⁵ If the source of the spill or the owner/operator cannot be located or the owner/operator cannot clean-up the spill, the Coast Guard would hire a general contractor

⁵ Jones, Roberta, Port of San Francisco, 1995. Memorandum to Dan Hodapp, Port of San Francisco, dated November 16, 1995, regarding Hyde Street Harbor EIR. Available for review at the Planning Department, 1660 Mission Street, in project file #93.574E.

to clean-up the spill and rely on money from an existing pollution fund. Most calls to the Coast Guard in San Francisco Bay are for relatively small spills.⁶ In the past year, there have been fewer than ten reported incidents and all were for minor spills of less than ten gallons.⁷

In the Hyde Street Harbor and Fisherman's Wharf area, the Port of San Francisco maintains a Wharfinger on duty Monday through Friday to oversee boating/berthing activities in the harbor. Problems with fuel spills are usually associated with accidental mishaps, such as a malfunctioning bilge pump or a swamped vessel. The Wharfinger, fisherman or nearby restaurateurs would call the Coast Guard first, if such an event occurs, and then call the Port of San Francisco second (though the Port personnel has no enforcement authority and cannot write citations). In general, the boating activities at the harbor are "self-policing," with the boat owners or operators responsible for reporting spills, and the Wharfinger providing general oversight.⁸ Weekend-use of the harbor is unsupervised. Some dumping from boats may occur.

In addition, Rules and Regulations of the Port of San Francisco for commercial fishing boats, under Terminal Tariffs, Rule No. 34, Section 8C, Item No. 847 states the following:

"No person shall dump or discharge oil, spirits, flammable liquids or contaminated bilge water into any area under the jurisdiction of the San Francisco Port Commission. "

The Wharfinger, under supervision of the Port Director, has authority for enforcement of these regulations and regularly patrols the harbor for these purposes. For fishing vessels with berthing leases, the Port has the authority to terminate their lease, although transient vessels without leases can only be asked to leave. Actual enforcement of water quality violations and penalties associated with fuel spills are under the jurisdiction of the Coast Guard, Department of Fish and Game, and Regional Water Quality Control Board, as previously discussed.

⁶ Chad Corey, U.S. Coast Guard, QM-2, Marine Environmental Response and Petty Officer Chris Mandin, Coast Guard Marine Safety Office. Telephone communication with Joyce Hsiao, Orion Environmental Associates, July 12, 1995.

⁷ Robert Jones, Environmental Specialist, Port of San Francisco, telephone communication with Joyce Hsiao, Orion Environmental Associates, January 12, 1996.

⁸ John Davey, Wharfinger, Port of San Francisco, 1995. Telephone communication with Joyce Hsiao, Orion Environmental Associates, July 12, 1995.

There is also the potential for spills at the fueling dock, which currently exists and is proposed to be maintained at its current location. However, the proposed Harbor Service facilities would include improvements to the existing fuels station building, including lighting and spill containment equipment, a new/replacement fuel delivery pipeline from the seawall to the fuel dock which includes automatic shut-off features, a leak detection system, remote operated shutoff switch and pressure sensitive valves. Oil waste disposal facilities would be constructed in the working area in addition to an existing facility along Fish Alley. The oil disposal/recycling facilities for vessels would be easily accessible for boat operators 24 hours a day with clear signage. These features would help reduce the likelihood of a fuel spill affecting the Bay and would contribute to the long-term improvement of water quality in the Harbor.

However, the possibility of a fuel spill in the Harbor and the fuel would still exist, despite the proposed improvements. The Port currently maintains and would continue to maintain a spill prevention and response plan that specifies procedures to follow in the event of a fuel spill. The plan delineates source identification, clean-up, and notification (including coordination with the U.S. Coast Guard) procedures to contain and minimize any effect of a fuel spill in the Bay. Emergency fuel clean-up equipment is maintained at the fuel dock as well as at the Wharfinger's office and includes absorbent booms (devices about 40-feet long and five inches in diameter filled with absorbent material, used to contain and absorb spills) and absorbent pads.⁹ Dock personnel will continue to be trained in use of equipment, clean-up of fuel spills, and proper disposal of used equipment. Currently, training of personnel consists of attendance at a 24-hour training course, with annual eight-hour refresher courses. In addition, the Port distributed literature to boat owners and operators regarding water quality protection and proper use of the oil disposal/recycling facilities when the recycling shed was completed about two years ago, and the Port will periodically continue this type of public information program.¹⁰

The proposed project is not expected to attract substantially increased numbers of boats over existing numbers of boats, thus, the proposed project would not result in any increased potential

⁹ John Davey, Wharfinger, Port of San Francisco, 1995. Telephone communication with Joyce Hsiao, Orion Environmental Associates, August 18, 1995.

¹⁰ Roberta Jones, Environmental Specialist, Port of San Francisco, telephone communication with Joyce Hsiao, Orion Environmental Associates, January 12, 1996.

for fuel or oil spills from fishing vessels over that which currently exists. The proposed project is designed to provide adequate facilities to accommodate the existing number of vessels using the harbor by providing berthing space for boats now rafted or double-tied in the harbor, and the Port will continue its existing programs and practices to minimize fuel spills to the Bay and harbor. The project would include improvements at the existing fuel dock which would reduce the potential for fuel spills in the Harbor associated with the fuel dock.

OTHER WASTES FROM BOATS

As in any port or harbor, there is the potential for illegal dumping of wastes by boats in the area. The Port of San Francisco Rules and Regulations for commercial fishing vessels includes the following provision under Item No. 847:

"No person shall throw, discharge or deposit from any vessel or from the shore or float or otherwise any kind of refuse or sewage whatsoever into or upon the waters of the harbor, or in, on or upon the banks, walls, sidewalks, or beaches of any waters within the jurisdiction of the San Francisco Port Commission. All garbage must be removed from the area."

The Wharfinger, under supervision of the Port Director, has authority for enforcement of these regulations and regularly patrols the harbor for these purposes. For fishing vessels with berthing leases, the Port has the authority to terminate their lease, although transient vessels without leases can only be asked to leave. Actual enforcement of water quality violations associated with discharge of refuse or sewage to the harbor waters is under the jurisdiction of Regional Water Quality Control Board. According to the Port's Wharfinger, none of the commercial fishing boats are permitted to have bathroom facilities that can discharge to the water. The boats must have fully contained chemical toilets, similar to those used in a Recreational Vehicle (RV). The Wharfinger regularly patrols and monitors the vessels in the Harbor to assure that these requirements are met. The Hyde Street Harbor does not currently have a pump-out station for the chemical toilets, and vessels must go to Gashouse Cove or Pier 39 for those

facilities.¹¹

The proposed project is not anticipated to generate an increase in the number of vessels using the harbor, and therefore, no increase would occur in potential for waste discharge from boats than currently exists. The potential for such discharges would, in fact, be reduced due to the proposed vessel sewage pump-out station. The station would be located adjacent to the fuel dock area with a 20 gallon per minute pump-out capacity directly connected to the City's sanitary sewer system. In addition, the new sewage handling facilities with the proposed project would be a convenience for the commercial fishermen and would reduce the likelihood of illegal discharges to the Bay, which would indirectly protect water quality in the Bay.

Although the proposed project would not result in any increased potential for waste discharge from boats, there are additional procedures the Port could implement to minimize the likelihood of illegal discharge of wastes to harbor waters and to assure that waste disposal facilities are properly used. This could include increasing the coverage (24 hours/day) of supervision and oversight of commercial boating and berthing activities at the proposed harbor.

STORMWATER

The Hyde Street Pier and Pier 45 are located along the City's perimeter, and stormwater runoff from the piers and work dock area does not flow to the City's combined sewer system. The project area instead drains to catch basins that discharge directly to the Bay. Part of the recently completed post-earthquake improvements included installation of two 4,000 gallon oil/water separators located under the paved surface of Pier 45 between Sheds A and C for stormwater runoff. Runoff from the shed roofs and parking area is directed to the valley between the sheds, then flows to the oil/water separators for treatment, prior to discharge to the Bay. These improvements have provided additional water quality protection to the harbor from pre-earthquake conditions. Proposed improvements to Sheds A and C would be interior improvements and would result in no change in water quality conditions and no increase in the existing area of impermeable surface. Runoff from the aprons on the east and west side of Pier

¹¹ John Davey, Wharfinger, Port of San Francisco, 1995. Telephone communication with Joyce Hsiao, Orion Environmental Associates, July 12, 1995

45 will continue to flow directly to the Bay.

The proposed project would result in an increase in impermeable surfaces, associated primarily with the floating berths and walkways, and stormwater runoff from these surfaces would drain directly to the Harbor. The estimated increase in impermeable surfaces associated with the floating berths and walkways would not affect the existing combined stormwater/sewer collection system. Stormwater runoff on the Hyde Street Pier would be collected in the depressed central area on the pier and would flow to an oil-water separator. Water quality effects associated with discharge of stormwater to the Bay would not be expected to change substantially from the existing conditions.

In addition, runoff from the breakwater, either from stormwater or wave action, drains accumulated debris, animal wastes, and sediments into the Bay. The San Francisco Fire Department has used the fireboat at Pier 22 1/2 periodically as requested by the Port to hose off the breakwater during outgoing tides so that debris and wastes are dispersed into the Bay at large. This practice is conducted only as requested by the Port and approved by the Fire Department.¹²

LITTER AND TRASH

Litter and trash floating in the harbor waters is a common water quality concern in the project area. The litter can either be blown by the wind or carried by sea gulls from the adjacent restaurants and tourist shops, from the fishing vessels, or from the fish processing industries. The Port of San Francisco operates a work skiff one to two hours a day in the harbor to clean up the floating debris. Implementation of the proposed project would not be expected to affect the amount of litter or trash carried to the Bay, since the number of boats are not expected to increase and trash containers would be provided on the new marina docks and at the fueling dock. Although the proposed project would not result in any increased potential for litter or trash, the Port could implement measures to improve the existing water quality conditions, such as: (1) Increasing the frequency of the Port's work skiff operation could provide an incremental

¹² Captain John Peeff, San Francisco Fire Department, Captain of Fireboat at Pier 22 1/2. Telephone communication with Joyce Hsiao, Orion Environmental Associates, March 25, 1996.

improvement in water quality and aesthetics of the harbor waters, and (2) Coordinating with restaurant owners and nearby commercial operators to improve housekeeping practices (such as improved grease disposal bins, dumpsters with side covers, increased cover garbage receptacles, sidewalk sweeping, etc.) to reduce litter and trash entering harbor waters.

CONSTRUCTION IMPACTS

Construction of the proposed harbor improvements to the pier and berthing system would require removal of a portion of the existing pier structure, replacement of rock, installation of new concrete piles, installation of guide piles and installation of floating berths and walkways. These activities would involve dredging about 20,000 cubic yards of bottom sediments and placement of fill in the construction areas, and would disturb Bay sediments in the project area. Dredging, if required, would occur on a 24-hour basis.

Dredging and placement of fill/rock materials in the Bay would be expected to result in short term, localized effects to the Bay water quality. These effects could include lower dissolved oxygen, increased turbidity and salinity, increased concentration of suspended solids, and possible release of chemicals present in the sediments into the water column. Due to the circulation and tidal effects of water flow in the harbor, the affected water would be expected to be dispersed and thus diluted to the Bay at large following completion of construction activities that would disturb Bay sediments.

Any dredging would be conducted under permit conditions required by the U.S. Army Corps of Engineers and the Bay Conservation and Development Commission, which includes water quality certification by the Regional Water Quality Control Board that is designed to protect water quality; the State Lands Commission may also have regulatory approval over dredging activities. These permit conditions include sediment testing prior to dredging to determine if the quality is suitable for in-Bay disposal. All dredging conducted to date by the Port has met these requirements. If the regulatory agencies determine that additional water quality protection is warranted, measures such as silt screens may be required during dredging, but to date this

measure has not been necessary. In addition, the Port schedules any dredging activities to avoid conflicts with the herring season or with special activities at the swimming clubs.¹³

As discussed under III. ENVIRONMENTAL SETTING, B. WATER QUALITY, Page 43, the quality of sediments in the project area is generally comparable to that in other parts of the Bay. Therefore, effects of temporary sediment disturbance in the project area to the water quality would be within the range of water quality effects experienced during the recent maintenance dredging in April of 1995. That maintenance dredging operation lasted five to six days and involved removal of about 17,000 cubic yards of sediment. No water quality conditions were imposed on that dredging operation by the Corps of Engineers permit or the Regional Water Quality Control Board review. The Port received no complaints related to the dredging activity. In response to a request by swimmers at Aquatic Park, no dredging activities were conducted on Saturday.¹⁴

Construction activities in the Bay, such as placement of fill and rock materials, removal of existing piles, and installation of concrete piles would result in temporary, localized increases in turbidity and suspended solids, and decreases in dissolved oxygen. These effects would be minimized by compliance with water quality conditions proposed by the Port and included in construction specifications. These measures would be implemented as part of the Port's Best Management Practices for improving water quality. These measures would include field inspection during construction for visual observation of water quality and, if necessary, field sampling for turbidity. Similar to dredging activities, the Port would schedule in-Bay construction activities to avoid conflicts with the herring season and the special activities of the swimming clubs.

Removal of existing piles required for pier reconstruction would result in dislodging of debris, particles, and fine sediments attached to the piles and releasing them into the Bay. This would temporarily increase suspended solids and turbidity in the harbor waters that could be transported to Aquatic Park. Use of temporary cloths to wrap the piles prior to pulling them

¹³ Roberta Jones, Environmental Specialist, Port of San Francisco, telephone communication with Joyce Hsiao, Orion Environmental Associates, January 12, 19996.

¹⁴ Jones, Roberta, Port of San Francisco, 1995. Telephone communication with Marilyn Duffey, The Duffey Company, August 24, 1995.

would reduce the release of particles to the Bay, and use of booms could minimize the potential for transport of particles to adjacent areas. See Best Management Practices, Chapter V., page 165.

C. MARINE BIOLOGY

POTENTIAL EFFECTS ON MARINE BIOTA

This section summarizes analysis prepared by MEC Analytical Systems, which is included in the Water Quality Technical Report, available at the Department of City Planning, 1660 Mission Street.

Reconstruction of the Hyde Street pier would include removal of some existing rock and timber and placement of new rock and concrete fill, which would result in loss of habitat for some species and a gain in potential habitat for others. Habitat loss would include the removed substrate that would be buried by fill, while new habitat would be created for settlement of hard-bottom species that would attach to the new rock fill. Organisms living on the submerged portions of the pier would be subject to burial from dredging, but these organisms are common in adjacent areas and would likely recolonize the area following completion of construction. Sessile (permanently fixed) organisms growing on timber and rocks would be lost during the reconstruction of the east side of Hyde Street pier. Sedentary (fixed in one location) and infaunal (living within the sediment) species would also be lost, and motile organisms would be displaced to other locations. These organisms comprise the food of many demersal (living near the bottom) fish and their loss would result in short-term loss of food organisms for some fish living in the harbor.

An estimated 0.16 acres of rock and timber would be removed; however, 0.43 acres of rock and concrete would be gained, resulting in a net increase of 0.27 acres of new substrate. Similarly, the 65 new concrete piling supporting the proposed harbor would provide additional substrate for colonization by intertidal organisms. The losses of benthic habitat would be short-term due to proposed replacement of alternative substrate material.

Dredging about 20,000 cubic yards of bottom sediments would result in the direct loss of soft-bottom, benthic habitat, and would also result in short-term increases in turbidity that could indirectly affect marine organisms. Turbidity from dredging would reduce light availability and thus photosynthetic activity of phytoplankton. Zooplankton near the turbid area may be subjected to interference with feeding behavior. Increases in turbidity can also affect filter-feeding organisms by impairing respiration and feeding. If turbidity is severe and prolonged, sedentary organisms may

be buried by suspended sediments. Fish exposed to suspended sediment in the laboratory have been shown to suffer mortality as well as sublethal signs of stress.¹ However, fish have the ability to move and avoid the area in response to sediment turbidity. Adult fish would likely escape from areas of high turbidity and continue to avoid the area as long as sediment suspension persists.

Some avoidance of the project area by marine mammals would be likely during construction, particularly if pile driving is required. However, the incremental increase in noise level is not expected to affect seals and sea lions in the project area. Fishing vessel traffic can induce stress for seals and sea lions due to the potential for incidental harassment of and collisions with marine mammals. However, in general, it is expected that these animals would avoid the boats. No long-term changes in effects of fishing vessels is expected. The floating docks could provide new haul out spots for sea lions, as has occurred at Pier 39 Marina. Docks occupied by boats, with human activity, would not be likely to attract sea lion use. Unoccupied docks could. If unoccupied docks were to be used by sea lions and if this were to attract larger numbers of marine mammals to the harbor area than now exist, bacteriological water quality could be effected. It is not possible to accurately quantify this speculative condition.

¹ O'Connor, J.M., D.A. Newman, and J.A. Sheik Jr., 1977. Sublethal effects of suspended sediments on estuarine fish. Technical paper, U.S. Army Coast Eng. Res. Center (No. 77-3):90.

D. PUBLIC UTILITIES

SEWER AND STORMWATER SERVICES

The sewage collection system in the project area includes a new six-inch sewer line along Pier 45 (installed as part of the FEMA grant upgrades), which connects to the 51-inch line along Jefferson Street. The proposed project is broken into the following components:

- the Hyde Street Harbor pier reconstruction and Marina would include an oil-water separator for storm water, which would connect to the sewage collection system.
- the Harbor Service Facilities would add one restroom near the fueling area for the boat operators and fishermen, and a new vessel pump-out station. Currently, there is no vessel pump-out capability available.¹ This would be connected to the City sewer system.
- Pier 45 Sheds A and C improvements, which would incorporate a 25,000-square foot visitor center with a food service area; a 20,000-square foot conference center with a catering kitchen and restrooms; 40,000 square-feet of retail space; 10,000 square-feet of office space; and 45,000 square-feet of outdoor public access space.

The six-inch existing sewer main and pump station at Pier 45 were designed for existing uses of the Sheds A and C (parking and special events), but may not be able to accommodate the peak loads from the Pier 45 proposed improvements.^{2,3} Wastewater generated by the proposed visitor center, conference center, retail uses, and office use would likely be beyond the capacity of the existing six-inch sewer main in Pier 45. During preliminary design of proposed improvements in Sheds A and C on Pier 45, the project sponsor would prepare engineering estimates of wastewater loads and peaking factors to determine the adequacy of the six-inch sewer main on Pier 45. The Port would coordinate with the Department of Public Works to establish the need for pipe upgrade replacement and would implement the resulting recommendations.

¹ Personal interview, John Davies, Wharfinger, June 16, 1995.

² Personal communication with Dan Hodapp, Port of San Francisco, June 19, 1995.

³ Telephone conversation with Amy Carpenter, Moffatt and Nichol, June 12, 1995.

The City Water Pollution Control Plant treatment facilities have been designed to handle demands from both wet and dry weather flows. The existing wastewater treatment facilities and discharge outfall have adequate capacity to accommodate any dry weather flows generated by the proposed project.

Stormwater runoff from Fish Alley, the existing piers and aprons and buildings currently drains directly into the Bay. Runoff from Pier 45 is collected and treated in an oil/water separator located in the valley between the sheds before discharge to the Bay.⁴ Connection of the existing drains along Fish Alley to an oil/water separator would reduce the occurrences of untreated discharge to the Bay. The proposed project would also include an oil/water separator in the Harbor Facility area near the fuel dock.

If the proposed project is implemented, an increase in impermeable surface areas, associated primarily with the floating berths and walkways, would occur. Stormwater runoff from these surfaces would drain directly to the Harbor. The estimated increase in impermeable surfaces associated with the floating berths and walkways would not affect the existing combined stormwater/sewer collection system.

WATER SUPPLY SERVICES

According to the San Francisco Water Department⁵, existing mains and water supply pipes would be adequate to serve new development associated with the proposed project. Water demand would be associated with the commercial eating uses (in the conference center and visitors center), the office spaces, and the landscaping. The project area is served by dual supply (from Taylor Street and from the Embarcadero) and has adequate capacity to serve the proposed project.⁶

An existing master water meter is at the Pier. New pier tenants would apply for individual meters with the Customer Service Department of the Water Department.⁷ In compliance with San Francisco Ordinances 392-90 and 92-91, the project sponsor would incorporate as many water conservation devices into the project and landscaping as possible. Typical conservation devices include low-flow toilets, drought-tolerant plants and drip irrigation.

⁴ Chief Building Inspector, Ed Bubnis, Port of San Francisco, Personal interview, June 12, 1995.

⁵ Denise Davilla, San Francisco Water Department, Distribution Division, Personal Communication, June 19, 1995.

⁶ Ibid.

⁷ Ibid.

E. PUBLIC SERVICES

POLICE SERVICES

The additional visitor and employee activity associated with the proposed project (particularly Sheds A and C on Pier 45) would increase the potential for additional crime and vandalism in the project area and could, in turn, increase calls for police services. The incremental increase in demands for police services could be accommodated to some extent by the existing police force, although crime prevention measures would be required to minimize the additional demands for police services.

To reduce demands for police services, the shed tenants could hire additional security guards for foot patrols in the project area. The project sponsor would implement a crime prevention education program for merchants and staff. The project final design would include security measures to deter crime. These measures may include: restricting access to harbor area, alarms, closed circuit television, and/or a security system.

FIRE PROTECTION SERVICES

The number of fire and non-fire related incidents and the need for fire protection services would be expected to increase in proportion to the net new employees, visitors, and traffic associated with implementation of the proposed project.

The proposed project, primarily the Sheds A and C improvements, would result in the potential for increased demands for fire protection services by both the San Francisco Fire Department and the Port. No increased demands for fire protection services by the U.S. Coast Guard would be anticipated since the number of fishing vessels and level of activity at sea would remain about the same as current levels.

At the proposed Hyde Street Harbor Marina, demands for fire protection services could be decreased from current levels due to proposed infrastructure improvements, including lighting and electrical power improvements. In addition, the proposed improvements to the fuel dock and fuel delivery system would also decrease the potential demands for fire services.

At Pier 45, the Sheds A and C proposed improvements of approximately 140,000 square feet of floor area would generate new employees, visitors and traffic to the project site. This increased level of activity would be expected to increase the demands for fire protection services, although compliance with local building regulations regarding fire protection, fire spread control, and access would be expected to minimize any additional demands for fire protection services by the San Francisco Fire Department and the Port. Existing levels of staffing and equipment at the San Francisco Fire Department and the Port Fire Marshal would be expected to be adequate to accommodate any incremental increase in demands for their services.

The current water distribution system (both City and Auxiliary Water Supply System) would be adequate to accommodate the proposed project.¹ However, project specific fire suppression measures would need to be added, at the direction of the Fire Department. These measures would include a minimum of two additional suction pumps at Pier 45 Sheds A and C and sprinkler systems in the sheds. Additional measures might include: dry and wet standpipe outlets; additional fire alarm call boxes; automatic fire suppressant equipment for the floating marine diesel fuel depot; signage for egress; and provisions for fire lanes and curb markings. The Fire Department would require installation of low and high pressure hydrants, to meet fire department regulations.²

¹ Steven I. Van Dyke, Superintendent, San Francisco Fire Department, Bureau of Engineering and Water Supply, Personal interview, June 16, 1995.

² Ibid.

F. AIR QUALITY

Based on the Initial Study (see Appendix A, page A.21) and the Transportation Section of this EIR, the proposed project would not generate sufficient vehicular traffic to warrant analysis of potential air quality effects from motor vehicle emissions, such as localized effects on carbon monoxide or regional effects to the air quality in the Bay Area Air Basin. The Initial Study has also indicated that demolition and construction activities would not raise dust levels to a level that would have significant impacts upon air quality. In addition, although air pollutant emissions are associated with marine vessels (discussed in the Initial Study, page A.21), the proposed project is not anticipated to result in any change in existing levels of marine vessel activity since the proposed project is designed to accommodate the existing level of vessel usage in the harbor. Thus, no changes in regional air quality emissions from marine vessels would be expected from the proposed project. Therefore, these topics are not discussed in this section. This section focuses on air quality effects associated with odor emissions from fish processing activities on Pier 45, along Fish Alley, and around the boats in the harbor due to concerns raised by the public to the Port.

FISH PROCESSING ODOR

Odor and the fishing industry are inextricably linked together. A major source of unpleasant odor is from the anaerobic (oxygen deficient) decomposition of nitro-organic compounds. Fish processing industries, similar to sewage plants, feed lots, and rendering plants, are typical examples of odor sources due to the presence of relatively large amount of nitro-organic compounds. Most fish and other marine organisms do not contain a high surplus of oxygen in their systems, and therefore they are susceptible to rapid spoilage when exposed to air. Compounding this problem is that the breakdown of fat in fish (fish oil) leads to the formation of dimethyl amine, which is the major source of "fishy" odor. Odor tendency varies among various marine species due to their differences in fish oil content and susceptibility to bacterial decomposition. Cold temperatures markedly slow the bacterial breakdown process and placing the marine species on ice can reduce the odors generated. Odors of a more putrescent character may develop rapidly when marine life tissue begins to decompose, but fish odor in itself is not necessarily an indication of any unhealthful state of the product.

Odor nuisance is a subjective phenomenon. The Fisherman's Wharf area often smells fishy, which could be considered to lend character to the area, and the odor may not necessarily be perceived as objectionable. If the fish odor were intense, or if the odor character became septic or putrid, the same odor becomes nauseating unless olfactory sensitivity has been reduced from extended exposure to the odor.

Because odor can be the result of a complex mix of organic and inorganic chemicals, and because secondary factors can affect perception (such as odor strength and character, a person's previous association with the odor, a person's age and gender, etc.), no completely objective, quantitative mechanism exists for odor measurement. The most common odor descriptor is a parameter called an "odor unit" (OU). The number of OU's in an air sample is equal to the number of dilutions with clean air needed to reduce the odor strength until fewer than one-half of people with normal olfactory acuity cannot smell the odor any longer. This parameter may also be called the dilution-to-threshold (D/T) odor strength. It relates only to odor intensity, and not to character. A rule of thumb is that 5 D/T is the threshold for unpleasant odor that begins to evoke nuisance complaint among the more sensitive observers (generally women are more sensitive than men). At 10 D/T, the complaining percentage noticeably rises.

Odor complaints in Aquatic Park have been voiced to the Port regarding odors reportedly emanating from the vicinity of the fish processing activities on Pier 45 and from boats in the harbor (see Initial Study, Appendix A), although no odor complaints have been reported to the Bay Area Air Quality Management District.¹ Some complaints suggest that offensive odors are more associated with foul odors of a septic or putrid nature than simple "fishy" odor. The worst odors are described as having a sewage character as opposed to a more fresh fish odor and are described as "not all that frequent."²

Such odors may have been associated with existing fish processing along Fish Alley, or former fish processing in Sheds B and D on Pier 45, but the odors could also derive from other

¹ Telephone communication with Jim Ting, Area Inspector, Bay Area Air Quality Management District, with Evelyn Shellenberg, Orion Environmental Associates on January 12, 1996.

² Odor Survey conducted by Orion Environmental Associates, May 1995.

sources, such as stormwater catch basins or the combined sewer system. If the odor is from existing fish processing activities, it is more likely due to an upset in the processing stream, such as a clogged sewer or opened vents on waste storage, rather than from standard operating procedures. However, any odors currently emanating from existing fish processing activities in Sheds B and D would be expected to be reduced from pre-earthquake levels due to the recently completed (August 1995) improvements associated with repairs of earthquake damage. Improvements in existing operations may allow for any increased volume of fish processing activities associated with the proposed project without generating any additional odors, since sources of possible odor have been replaced. These could include replacement of inadequately sized storage, sewers or drainage/washdown facilities; improved materials such as stainless steel or ceramics, that are more easily sanitized; improved refrigeration/freezing; and improved clean-up facilities.

An odor survey was conducted in the vicinity of the Hyde Street Harbor and Pier 45 on May 3, 1995 in mid-afternoon and repeated at 5:30 AM on May 11, 1995. A syringe dilution apparatus described in American Society of Testing Materials Standard Method D-1391 was used by a trained observer to evaluate odor strength. During the first survey, in the afternoon, there were moderate winds and little activity on the pier; odors were transitory and not strong enough to measure. Faint fish odor and a diesel oil odor were detected near a fishing boat berthed in the Inner Lagoon, but not at any measurable level. During the second survey in the early morning, the winds were lighter and activity levels were higher. Odors were not detected at Aquatic Park because winds were from the west at one to two miles per hour. Fish odor was detectable at a distance of 250 feet downwind of Fish Alley. No odor was detected on Pier 45 itself, except for brief "whiffs" too weak and too infrequent to be measured. A maximum odor level of 10 D/T was observed near the rear door of a truck parked on Leavenworth Street, which was loading fish packed in ice. The odor was not detectable more than a few feet away.

As observed during the odor survey, odor nuisance in the Aquatic Park area would be influenced by the prevailing wind direction. Wind records from the downtown San Francisco wind monitoring station operated by the U.S. Weather Bureau indicate the following wind direction frequency:

<u>Wind Speed (miles per hour)</u>	<u>Wind Direction (from)</u>	<u>Percentage of Occurrence (%)</u>
Light (<3 mph)	NE, ENE, E	2.5%
Moderate (4-11 mph)	NE, ENE, E	5.3%
Strong (>11 mph)	NE, ENE, E	0.6%
Light (<3 mph)	SW, WSW, W	4.1%
Moderate (4-11 mph)	SW, WSW, W	11.9%
Strong (>11 mph)	SW, WSW, W	13.2%

The Aquatic Park is located west and southwest of the harbor and Pier 45. The predominant wind direction is from the west, southwest, or west southwest, which is in the direction going from Aquatic Park towards the pier. When the predominant winds are blowing, odors from the fish processing and harbor activities would be carried away from Aquatic Park. This wind direction occurs more than three times more frequently than from the reverse direction. The frequency of light winds, when odors would be least dispersed, from the direction of the pier and harbor toward Aquatic Park occur about 2.5 percent of the time, or about 4 hours per week, usually in the middle of the night or very early in the morning, and especially in winter when recreational users at Aquatic Park are limited.

Therefore, it is unlikely that any increased level of fish processing activities associated with the proposed project would result in a noticeable increase in "fish" odors in the project area, particularly in Aquatic Park. In addition, the proposed project would not be expected to result in any increased odors associated with boating and vessel activity, such as diesel fumes, since the project would be designed to accommodate the existing level of boating activity and no increase in number of boats is anticipated.

The Bay Area Air Quality Management District nuisance rule prohibits odor nuisance. If five different individuals were to make separate odor complaints on a single day due to fish processing activities and the complaints are confirmed by an inspector, it would be considered a public nuisance. The Air District would then initiate action with the fish processing operators to reduce the source of odors.

G. TRANSPORTATION

The information in this section is derived from the *Hyde Street Harbor/Pier 45 Transportation Analysis* prepared by KORVE Engineering, Inc. in consultation with the City Planning Department, dated October 1995. A copy of that report is on file and available for public review at the City Planning Department, located at 1660 Mission Street, 5th floor.

TRAVEL DEMAND

Project travel demand refers to total new vehicle, transit and pedestrian traffic generated by the proposed project. This section provides an estimate of potential travel demand to be generated by the proposed Hyde Street Harbor/Pier 45 Project.

Trip Generation

Table 9 presents the total person-trip generation for the proposed land uses on Pier 45 for the Proposed Project. The number of person trips generated by the project is presented, as are the net new project trips. Based on surveys conducted at Fisherman's Wharf as part of the *Northern Waterfront Transportation Study*, 1987 and the *Underwater World Aquarium at Pier 39*, 1989, an estimated 70 percent of the total retail, conference center and visitor center trips generated by the facility would be linked trips. Linked trips would include those visitors already coming to Fisherman's Wharf who add the proposed project to their itinerary, and those who decrease the number or duration of visits to other attractions.

The person-trip generation for the proposed project was based on information obtained from a number of sources. Sources included the *Guidelines for Environmental Review: Transportation Impacts*, July 1991, *Citywide Travel Behavior Survey*, 1993, and the *Northern Waterfront Traffic and Transportation Study*, 1987.

Trip Distribution and Mode Split

Mode split and distribution information for retail, office and cultural (conference and visitor center) trips was obtained from the *Citywide Travel Behavior Survey, Employees and Employers*, May 1993 and information obtained from the Department of City Planning. Assignments to travel

modes for the project were made based on this mode split information.

Table 10 presents the *net* trip generation by mode for the peak periods. This table presents the number of vehicles generated by the proposed project, and thus accounts for single-occupancy and shared-ride vehicles, as well as the number of transit, walk and "other" trips. Other trips include those visitors that use bicycles, motorcycles or other modes.

Hyde Street Harbor: Minor improvements are proposed for the Hyde Street Harbor, and the new facilities such as the pump-out station and the restrooms would support the existing commercial fishing uses in the harbor. The provision of the additional berths in the harbor would improve an existing "double-stack" berthing condition.

The number of parking spaces at the Hyde Street Harbor would increase over the number of spaces that currently exist, and the spaces would be used by the existing users of the Harbor. Since the existing users of the Harbor already park at off-street lots and on-street in the vicinity of the Harbor, it is not anticipated that the improvements at the Harbor would result in an increase in the number of vehicle trips to the Harbor. Existing and future trips to the Harbor are already included as part of the existing traffic volumes and operating conditions in the study area.

Pier 45: The proposed project, the Fisheries Center, would generate a total of 58 vehicle-trips during the weekday AM peak hour, 81 vehicle-trips during the weekday PM peak hour, and 98 vehicle-trips during the weekend midday peak hour.

Vehicle trips were assigned to the roadway network using the distribution information for retail, office and cultural trips from CTBS. The majority of the trips (60 percent of the cultural use and 40 percent of the retail use) would be made from locations within San Francisco. Approximately 35 percent of the retail trips and 18 percent of the cultural trips would be from out of the region. These distribution patterns were used as the basis for assigning the project vehicle trips to the local streets in the study area.

Table 9
Person-Trip Generation

Use	Size (gsf)	Daily Person-Trips	Weekday		Weekend Midday
			AM	PM	
Total Project Trips					
Visitors Center	25,000	6,000	0	609	609
Conference Center	25,000	3,480	418	278	661
Retail	40,000	6,000	726	726	726
Office	10,000	181	15	15	2
Total Project Trips		16,045	1,159	1,628	1,998
Net New Trips					
Visitors Center	25,000	1,915	0	183	198
Conference Center	25,000	1,044	125	83	198
Retail	40,000	1,800	218	218	218
Office	10,000	181	15	15	2
Net New Trips		4,940	358	499	601

Table 10
Project-Generated Trips by Mode

Travel Mode	Weekday AM	Weekday PM	Weekend Midday
Auto ¹	58	81	98
Transit	75	110	133
Walk	119	164	202
Other	35	44	51

Notes:

(1) Represents vehicle trips. Person-trips using auto as a travel mode were adjusted by vehicle occupancy rates reported in the City Travel Behavior Survey data to estimate number of vehicle trips.

Source: Kolve Engineering, Inc.

TRAFFIC OPERATING CONDITIONS

Impacts of the proposed project were assessed for the five intersections in the vicinity of the proposed project. Traffic counts conducted in February 1995 were used as the basis of analysis. Sensitivity analyses using July 1995 traffic counts were conducted at key intersections to determine if the February conditions were substantially different from summer conditions. The analysis results indicate that the LOS operating conditions would remain similar under both the winter (February) and summer (July) conditions. Under existing conditions the five study intersections currently operate at LOS B or better during the weekday AM and PM peak hours, and the weekend midday peak hour.

As defined by the City and County of San Francisco, the operational impact of an intersection is considered significant when project traffic causes the Level of Service to deteriorate from LOS D to LOS E. Refer to Appendix D for detailed description of the LOS designations for intersections.

The analysis considers two scenarios (Existing Plus Project and Cumulative Year 2010) and three different peak hours (weekday AM, weekday PM, and weekend midday). Tables 11 and 12 present the results of the Existing Plus Project and Cumulative analyses for the weekday and weekend peak hour conditions, respectively.

Existing Plus Project Traffic Operating Conditions

With the Proposed Project, traffic operating conditions at the five study intersections would remain essentially unchanged. Under all conditions, all intersections would operate at Level of Service B or better. The intersection of Jefferson Street/ Powell Street/The Embarcadero would operate at level of Service C in the future with the proposed project and cumulative conditions. The Proposed Project would not cause the Level of Service to degrade to an unacceptable Level of Service E or F during the weekday AM or PM peak hours, nor during the weekend midday peak hour.

Table 11

Intersection Level of Service - Weekday Conditions

Intersection	Existing (1995)				Existing (1995) Plus Project				Cumulative (Year 2010) Existing Roadway Network				Cumulative (Year 2010) Revised Roadway Network			
	AM		PM		AM		PM		AM		PM		AM		PM	
	Delay*	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Jefferson/Taylor	7.9	B	8.2	B	7.8	B	8.0	B	7.5	B	8.0	B	7.4	B	8.4	B
Jefferson/Powell/ The Embarcadero	12.0	B	12.3	B	12.2	B	12.5	B	11.6	B	11.7	B	11.3	B	11.6	B
Beach/Taylor	7.3	B	7.4	B	7.3	B	7.4	B	7.4	B	7.5	B	7.4	B	7.7	B
Beach/Hyde	5.9	B	8.0	B	6.0	B	7.9	B	6.0	B	8.1	B	5.9	B	8.3	B
Powell/Beach	2.8**	A	3.3	A	2.9	A	3.6	A	7.1	B	6.0	B	6.9	B	6.7	B

Table 12

Intersection Level of Service - Weekend Midday Peak Hour Conditions

Intersection	Existing (1995)		Existing Plus Project		Cumulative (Year 2010) Existing Roadway Network		Cumulative (Year 2010) Revised Roadway Network	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Jefferson/Taylor	10.2	B	10.1	B	9.9	B	9.7	B
Jefferson/Powell/The Embarcadero	14.2	B	14.5	B	20.1	C	13.1	B
Beach/Taylor	7.8	B	7.8	B	8.0	B	8.6	B
Beach/Hyde	8.2	B	8.2	B	8.4	B	8.5	B
Powell/Beach	7.4**	B	8.1	B	8.8	B	8.4	B

* Delay calculated as seconds per vehicle

** Three-way STOP-controlled intersection under existing conditions only

Source: Kolve Engineering, Inc.

Cumulative (Including Project) Conditions

For the future (Year 2010) cumulative intersection analysis, existing traffic volumes were adjusted based on compound annual growth rates of between 0.8 and 1.5 percent (12.7 to 25% over 15 years). These rates are also used in the ongoing *San Francisco Waterfront Land Use Plan EIR* and are based on anticipated future year traffic volumes at intersections along the Embarcadero, as identified in the *Alternatives to Replacement of the Embarcadero Freeway and the Terminal Separator Structure EIS/EIR*. The traffic volumes used as part of the Embarcadero/Terminal Separator Structure effort were developed as part of a two-step process, including identification of future traffic growth in downtown San Francisco through the use of the regional MTC travel demand model, and a more refined assignment of vehicle trips to the street network.

Under future cumulative conditions, it is anticipated that the fish handling space at Sheds B and D would become fully occupied. Activities associated with these operations include early morning (4:30 AM to 11:00 AM) fishing, and late morning to mid-afternoon processing, clean-up and trading (11:00 AM to 2:00 PM). For the most part, these activities would not coincide with the peak period of activity for the Proposed Project.

Cumulative conditions were analyzed for two roadway configuration scenarios: the existing roadway configuration, and a revised roadway configuration on Taylor and The Embarcadero proposed by the Port of San Francisco.

Existing Roadway Configuration: This scenario assumes that the roadway configuration is essentially the same as it is today, with the exception of the Pier 39 garage improvements and the construction of the MUNI F-Market line. The proposed improvements to the Pier 39 garage would not cause the traffic Levels of Service to degrade the operations of the intersections of Beach and Powell Street nor Jefferson/Powell/The Embarcadero. The improvements would result in a decrease in the number of vehicles approaching these intersections.

The operation of the MUNI F-Market line would also not cause traffic operations to degrade to an unacceptable Level of Service. The operations of the street car were incorporated into the

analysis for the study intersections of Jefferson/Powell/The Embarcadero and Jefferson and Taylor Streets.

Under the Proposed Project all intersection operating conditions would be similar to those identified for Existing Plus Project conditions, and all intersections would operate at LOS B or better. The exception is the intersection of Jefferson/Powell/The Embarcadero which would change to LOS C under cumulative weekend midday conditions.

It should be noted that the removal of the westbound left turn into the Pier 39 garage and the northbound right from Powell Street to The Embarcadero southbound would result in minor improvement in operating conditions at the intersection of Jefferson/Powell/The Embarcadero during the weekday AM and PM peak hours.

Revised Roadway Configuration: Under this condition, the planned changes to the existing network were incorporated into the operational analysis, the same as above. In addition, segments of Taylor Street and The Embarcadero are proposed to operate as two-way streets. Figure 17 presents the proposed revised roadway configuration.

Taylor Street between The Embarcadero and Bay Street would be converted from a one-way southbound roadway to two-way, with one lane in each direction. Between Jefferson Street and The Embarcadero, the existing loading zone would remain. This revision would allow vehicles to access Pier 45 from Taylor Street.

The Embarcadero, between Powell Street and Taylor Street would be converted from one-way westbound operation to two-way operation, with one lane in each direction. This reconfiguration of The Embarcadero to two-way would provide for an additional lane of capacity for vehicular traffic. Tour bus parking would remain at the north curb of this section. As part of this proposed reconfiguration, the sidewalk on the north curb would be widened. Vehicles exiting Pier 45 would be able to continue on The Embarcadero to Powell Street.

Under the Revised Roadway Configuration, the weekday PM peak and weekday midday peak hour the delay at the intersection of Jefferson and Taylor would be slightly longer than under

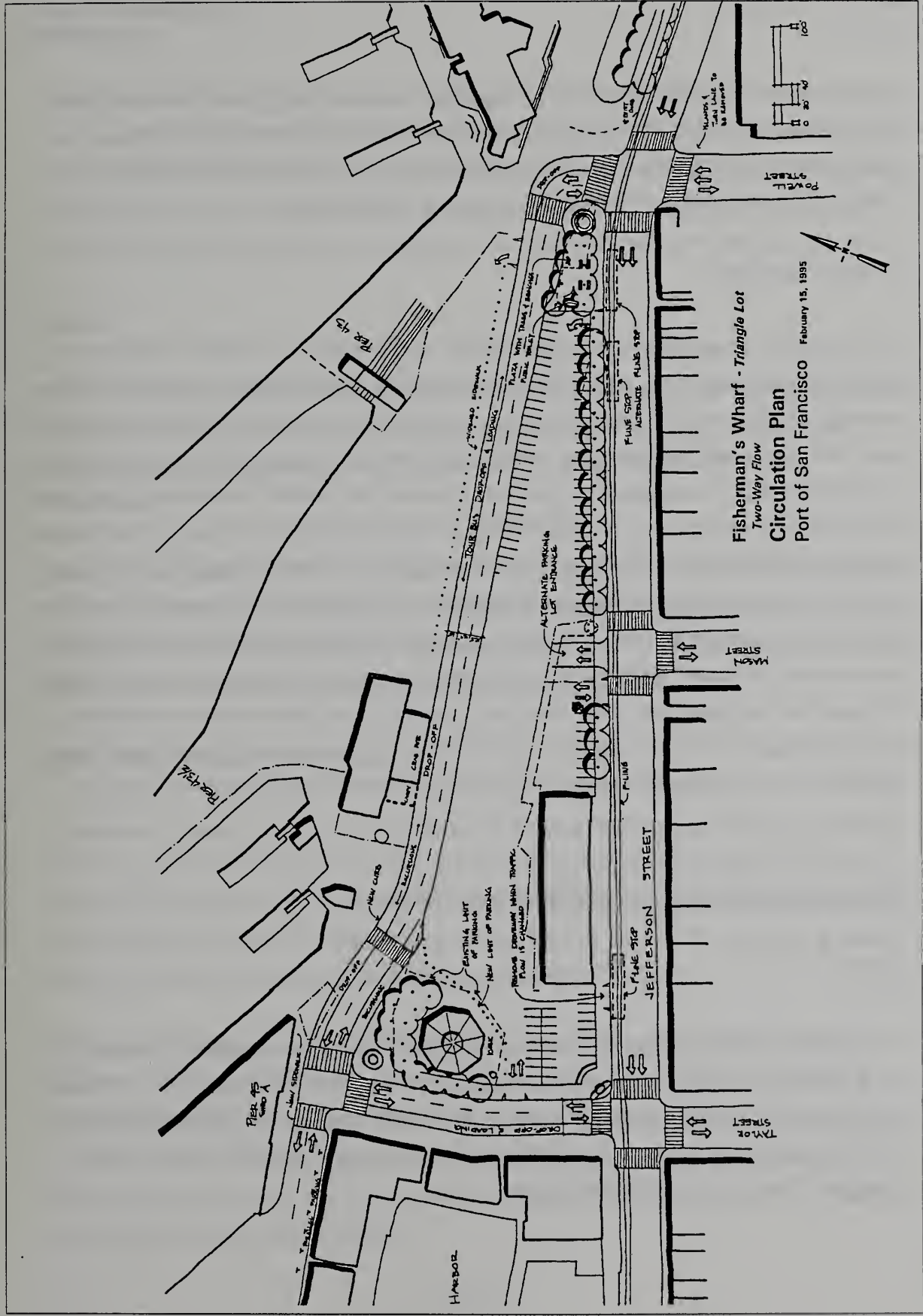


Figure 17
PROPOSED CHANGES TO ROADWAY NETWORK

conditions with the Existing Roadway Configuration; however, the LOS would remain at LOS B. Due to the addition of additional capacity at the intersection of Jefferson/Powell/The Embarcadero, this intersection would operate at LOS B, as opposed to LOS C under the Existing Roadway Configuration, during the weekend midday peak.

TRANSIT SERVICES

Transit demand generated by the proposed project is estimated to be minimal. Based on the project trip generation mode split information provided by the Department of City Planning, it is estimated the Proposed Project would generate approximately 75 new transit trips during the AM peak hour, 110 transit trips during the weekday PM peak hour, and 133 trips during the weekend midday peak hour. The direction of these trips is equally split between those entering and those leaving the project area. This estimated demand would be distributed between the four existing transit lines (26 AM and 25 PM weekday peak hour trips and 15 weekend peak hour trips) and the two cable car lines (12 AM and 20 PM weekday peak hour trips, and 20 weekend peak hour trips) that serve the project area. Most of the existing MUNI lines have additional capacities in the vicinity of the project, while the cable cars generally operate at capacity during the weekday PM peak hour and weekend midday peak hour. However, the F-Market line is anticipated to attract some cable car riders. This would relieve the over-capacity conditions at the cable cars. Therefore, it is not anticipated that this additional transit demand would result in impacts to transit.

PARKING AND LOADING REQUIREMENTS AND DEMAND

Parking

The Proposed Project improvements to Sheds A and C would consist of approximately 95,000 sq. ft. of visitor center, retail and conference center space. Based on this occupied space, the San Francisco Planning Code requires that the Proposed Project provide 193 parking spaces. The Proposed Project would supply a total of 200 parking spaces for the Proposed Project development and existing fish handling uses.

Parking demand for the project was estimated based on information provided in the *CTBS* and the *Guidelines for Environmental Review: Transportation Impacts*, July 1991, published by the City and County of San Francisco, Department of City Planning. The project would generate a peak parking demand for approximately 117 parking spaces. This parking demand represents the estimated number of vehicles that would park on the project site during the peak period.

Loading

Based on the 95,000 sq. ft. of office, retail, visitor center and conference uses, the San Francisco Planning Code requires that the project provide one loading space. The Proposed Project would provide a loading facility (one service space), thus meeting the Planning Code requirements.

Based on the *Guidelines for Environmental Review: Transportation Impacts*, Appendix 7, July 1991, it is estimated that the Proposed Project would generate approximately 14 delivery/service trips per day, which corresponds to a demand for one space in an average hour and in the peak hour. Delivery vehicles would consist of primarily of vans and trucks.

PEDESTRIAN CIRCULATION IMPACTS

A pedestrian crosswalk analysis was conducted for Existing Plus Project conditions at the intersection of Taylor and Jefferson Streets for the weekday and weekend midday peak hours. Under existing conditions during the weekday AM and PM and weekend midday peak hours, all four crosswalks at the study intersection experience LOS D or better. The exception is during the weekend midday peak, when the east crosswalk operates at LOS E.

The addition of project-generated pedestrian trips to existing pedestrian volumes would not result in a worsening in the LOS level from existing conditions. During the weekday midday peak hour, with the proposed project, the north and east crosswalks would continue to operate at LOS C, while the south and west crosswalks would operate at LOS B. During the weekend midday peak hour, the north and west crosswalks would continue to operate at LOS D, while the east crosswalk would remain at LOS E.

Under the Proposed Project, pedestrian traffic volumes would increase in the immediate vicinity of Pier 45, including on Taylor Street and on The Embarcadero between Taylor Street and Powell Street, and would add to the existing pedestrian congestion. Existing peak hour conditions at the north sidewalk on The Embarcadero are congested when tour buses unload and load passengers.

H. HAZARDS

This section discusses existing hazardous materials handling and public health impacts associated with the presence of and exposure to hazardous materials during construction of the proposed project. During reconstruction of the harbor facilities, potential hazardous materials may be encountered during dredging, replacement of existing timber pier structures, and relocation of rock fill. During construction of the Hyde Street Harbor Marina, hazardous wastes may also be encountered during excavation for the planned utility lines or any construction activities; during demolition of existing buildings; and during dredging operations necessary for construction of the berths.

HAZARDOUS MATERIALS HANDLING

A 20,000-gallon and a 210,000-gallon above ground fuel tanks were previously used to supply diesel to the fuel dock; the tanks were located at 440 Jefferson Street. Diesel was supplied to the fuel dock through approximately 400 feet of a 3-inch diameter delivery line. Approximately 100 feet of the existing pipe from the fuel tanks to the seawall was previously replaced with double walled steel pipe. The remaining 300 feet of pipe would be replaced and equipped with automatic shut off features, a leak detection system, a remote operated shut off switch, and pressure sensitive valves as part of the proposed project. The fuel dock would also be provided with spill containment equipment. Both above ground tanks have been removed and a soil and groundwater remediation is underway. Fuel is currently supplied to the fuel dock from a temporary truck with an approximately 8,000 gallon tank. The truck is located near the dock and is bermed; absorbent material is available to control potential spills.¹

The Port maintains a location on the southern edge of the outer lagoon (see Figure 16, page 103) for fishermen to recycle their used oil. The oil is poured into a 260-gallon above ground tank and the Port hires a contractor to recycle the oil as needed.² The tank is contained in a partially enclosed shed.

¹ Roberta Jones, Port of San Francisco, telephone conversation with Mary McDonald of Orion Environmental Associates, December 12, 1995

² Dan Hodapp, Port of San Francisco, telephone conversation with Mary McDonald of Orion Environmental Associates, April 24, 1995.

POTENTIAL HAZARDS IN BUILDINGS AND STRUCTURES

Building materials commonly used in older buildings that may pose public health hazards include asbestos, electrical equipment such as transformers and fluorescent light ballasts that contain polychlorinated biphenyls (PCBs), fluorescent lights containing mercury vapors and lead-based paints. If present in a building being demolished, there may be a potential risk of worker exposure, and possibly public exposure, if these hazardous materials should become airborne or released as a result of an accident. These materials would also require special disposal procedures. In addition, existing piers that are planned for removal are constructed of creosote treated timber and may require special disposal procedures.³

No building surveys have been performed to identify whether hazardous building materials are present in the Bell Smoked Fish building which would be demolished during construction of the Harbor Services Facilities. Due to the age of the building, however, these materials could potentially be present. A building survey to identify PCB-containing electrical equipment or fluorescent light ballasts, asbestos, lead-based paint, fluorescent lights potentially containing mercury vapors, and other potentially hazardous building materials has been described as part of the proposed project.

Any hazardous materials identified in the buildings or piers would be removed and disposed of prior to pier removal or building renovation or demolition. The removal and disposal would be performed in accordance with applicable federal, state, and local hazardous materials regulations described in Appendix D. This would minimize the potential risk of exposure of workers and the public to hazardous building materials. Abatement of hazardous building materials would be performed under the direction of the Port.

POTENTIAL SOIL CONTAMINATION

Installation of the proposed utilities would require excavation of soil along the alley leading to the fuel dock and pump out facility (see Figure 16, page 103); it is not expected that groundwater would be encountered in this excavation. Hazardous wastes may potentially be present in the

³ Currently, the Regional Water Quality Control Board does not approve the use of creosote treated timber for construction of piers because they are considered to pose a threat to fish and wildlife health.

soil due to previous land uses along the proposed utility alignment, because hazardous wastes were contained in the fill materials used at the site, or due to migration from nearby hazardous waste sites. No soil removal is planned as part of the renovation of Sheds A and C.

The potential presence of hazardous wastes within the proposed utility alignment was evaluated by completing a site history, reviewing existing hazardous waste sites within a one-half mile radius, and reviewing previous sampling conducted. As described below, sampling was previously conducted within the proposed utility alignment but the analytical program did not include all of the laboratory analyses necessary to identify all of the chemicals potentially present in the soil or those required by the "Maher" Ordinance. Sampling and analysis of the soil to identify whether hazardous wastes are present in the soil and to comply with the requirements of the "Maher" Ordinance will be conducted by the Port following preliminary engineering to identify the specific location of ground disturbing activities.

Potential Hazardous Wastes Based on Site History

Based on the site history prepared for the vicinity of the proposed utility alignment (see ENVIRONMENTAL SETTING, Section III.H, Hazards) there are numerous potential sources of hazardous wastes. Those land uses that potentially involved the use of hazardous materials are summarized in Table 13 with a listing of the hazardous wastes potentially used. Potential hazardous wastes related to each land use are as follows:

- Potential hazardous wastes present as a result of Selby Smelting and Iron Works (located at 680 Beach in the 1800's) include heavy metals such as lead and arsenic,⁴ solvents, acids, and cyanide. It is reported that the smelter dumped slag to the north of the plant, along Jefferson Street between Hyde and Leavenworth streets.

⁴ Heavy metals are those considered to by the regulatory agencies to be persistent and bioaccumulative toxic substances.

Table 13

Summary of Land Uses Potentially Involving Hazardous Wastes

Location	Land Use	Approximate Date	Potential Source of Hazardous Materials	Potential Hazardous Materials Present
600 to 680 Beach Street	Smelter	1864-1885	Smelting Operations Dumping	Heavy Metals, Cyanide, Acids, Solvents
	Manufactured Gas Plant	1898-1906	Coal Wharf	PNAs, Heavy Metals
			Above Ground Tanks	Crude Oil, Manufactured Gas Solvents, Petroleum Products, Heavy Metals
			Pipe Shop	Crude oil
			Explosion	PNAs, Benzene, Ammonia, Cyanide, Hydrogen, Oil and Grease
			Plant Operations	
			Refuse Fill	Various
	Cannery/Warehouse/Arcades and Bazaars	1907-1994	Underground Tanks Box Printing	Crude Oil Inks, Solvents, Heavy Metals, Oil and Grease
Jefferson Street	Railroad	1914- ?	Track Maintenance	Oil and Grease, Petroleum Products, PNAs, Pesticides, PCBs, Lead, Cyanide
Hyde Street Pier	Gas Stations	1948 - 1995	Product and Oil Storage, Usage	Gasoline, Diesel, Oil, Heavy Metals, Solvents
	Fish Dealing and Handling	1954-1970	Refrigerant	Freon
	Refrigeration	1955-1957	Refrigerant	Freon
	Engine Filters	1955-1957	Oil Usage	Petroleum Products, Heavy Metals, PCBs
2936 Hyde Street	Diesel Engine Repair	1948-1971	Engine Repair	Solvents, Petroleum Products, Heavy Metals, PCBs
	Fish Handling	1980-1995	Refrigeration	Freon
2941 Hyde Street	Diesel Engine Repair	1974-1994	Engine Repair	Solvents, Petroleum Products, Heavy Metals, PCBs

Table 13 (cont)

Summary of Land Uses Potentially Involving Hazardous Wastes

Location	Land Use	Approximate Date	Potential Source of Hazardous Materials	Potential Hazardous Materials Present
440 Jefferson Street	Fish Handling	1957-1995	Refrigeration, Potential Underground Storage Tank	Freon, Petroleum Products
440 Jefferson Street	Gasoline and Diesel Storage	1935-1994	Above and Below Ground Tanks	Gasoline, Diesel
490 Jefferson Street	Fish Smoking/Handling	1948-1987	Refrigeration	Freon
494 Jefferson Street	Fish Handling	1985-1987	Refrigeration	Freon
500 Jefferson Street	Painters Storage	1948-1950	Material Storage	Paints, Heavy Metals, Solvents

Notes:

The alignment is underlain by fill materials, including 1906 earthquake and fire fill and potentially smelting slag; potential hazardous materials associated with the fill include PNAs, petroleum products, solvents, heavy metals, cyanide and acids.

PNAs = Polynuclear Aromatic Hydrocarbons

PCBs = Polychlorinated Biphenyls

Source: Orion Environmental Associates, 1995

- Potential hazardous wastes associated with the manufactured gas plant formerly at 600 to 650 Beach Street, include PNAs⁵, benzene, ammonia, cyanide, hydrogen, and oil and grease. Potential hazardous materials associated with the above ground tank and pipe shop located within this facility include crude oil, petroleum products, solvents, and heavy metals. A part of the plant was also underlain by refuse fill which may be associated with various types of contaminants.
- Potential contaminants associated with the underground storage tanks at the Cannery include crude oil. A box printing operation was located within the cannery which would also be associated with the use of inks (inks may contain metals), solvents, oil and grease, and heavy metals.
- Potential hazardous wastes associated with the California Belt Railroad on Jefferson Street include oil and grease, petroleum products, PNAs, pesticides, PCBs⁶, lead, and cyanide.
- Hazardous wastes potentially related to land uses on the Hyde Street Pier include gasoline and other petroleum products such as diesel, oil, solvents, heavy metals, and freon.
- Potential hazardous wastes related to the fill include PNAs, petroleum products, solvents, heavy metals, cyanide, and acids.
- Potential hazardous wastes related to land uses in the vicinity of the proposed alignment since the area was filled include petroleum products, heavy metals, solvents, inks, PCBs, and freon.

⁵ PNAs are polynuclear aromatic hydrocarbons, many of which are carcinogenic (cancer causing).

⁶ PCBs are polychlorinated biphenyls.

Potential Hazardous Waste Sites

Additional potential sources of hazardous wastes were identified by: (1) a computerized record search to identify potential hazardous waste sites within a one-mile radius of the project area;⁷ and (2) review of regulatory agency files to characterize the sites identified by the computerized records search that are within a 1/2-mile radius of the project area; and (3) a visual site reconnaissance by Orion Environmental Associates.⁸ Potential sites were identified within a one mile radius. Agency files for only those sites within a one-half mile radius were reviewed because these sites are considered to have the greatest potential to impact the proposed utility alignment if groundwater quality has been affected because groundwater plumes can travel over relatively long distances. The regulatory databases used to identify these sites are discussed in Appendix E.

The computerized record search was also used to identify whether there is a permitted underground storage tank at the proposed utility alignment, or whether sites along the alignment are permitted to generate hazardous wastes under the Resource Conservation and Recovery Act which is implemented by the U.S. Environmental Protection Agency (U.S. EPA). Underground storage tanks are common sources of soil and groundwater contamination, particularly in older tanks where leakage is common. Underground storage tanks have been used in a variety of industries for the storage of gasoline, diesel, chemicals, waste oil and other chemicals. Prior to regulation in the 1980s, underground storage tanks were not subject to monitoring or provided with secondary containment. If a tank leaked, the contents would migrate to the soil, and if undetected, could also contaminate the groundwater. Current requirements for underground storage tanks include tightness testing on a regular basis to monitor for leakage. The presence of a permitted underground storage tank at a site does not necessarily imply that soil or groundwater contamination is present, only that such a potential exists. Similarly, identification of a site that is permitted to generate hazardous wastes only indicates the potential for hazardous substances to be present; it does not necessarily indicate that an environmental problem exists.

⁷ NATEC Environmental Reporting Services, Ltd, Environmental Disclosure Report, January 16, 1995.

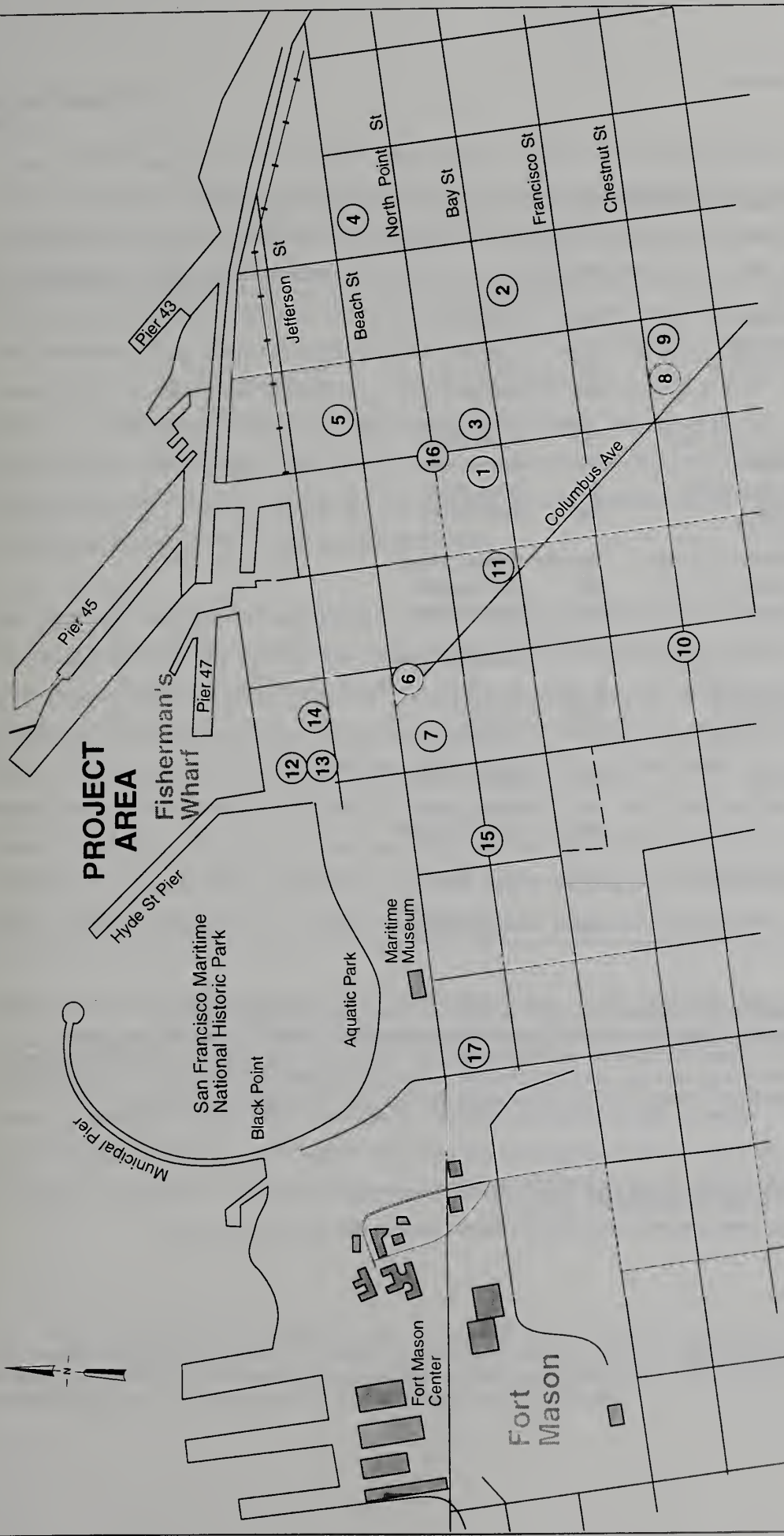
⁸ McDonald, Mary, Orion Environmental Associates, site visit, June 7, 1995.

The computerized records search identified a permitted underground storage tank located at San Francisco Marine, 442 Jefferson Street. The Mobil Oil Marine Station (foot of Hyde Street) was identified as a RCRA permitted hazardous waste generator. No other permitted underground storage tanks or hazardous waste generators were located near the planned utility alignment. The record search identified 17 sites within a one-mile radius of the proposed utility alignment where hazardous substances were known or suspected to have resulted in the presence of non-native compounds in the soil or groundwater. These sites are shown in Figure 18 and listed in Table 14 and discussed below.

Regulatory agency file reviews were conducted for those sites located within a 1/2-mile radius of the project site to characterize the type and extent of contamination identified. If contamination extends off-site at these locations, it could potentially affect soil and groundwater quality at the project site. Factors which influence the ability for one of these sites to affect the project site include groundwater flow direction, off-site extent of contamination, and distance from the project site. The general groundwater flow direction in the vicinity of the project site is towards the north. Based on this, sites located to the south of the project site with contamination extending off-site would have the greatest likelihood of affecting soil and groundwater quality at the project site, depending on the extent of contamination and their distance from the project site. Those sites located more than 1/2-mile from the project site are not expected to affect soil or groundwater quality at the project site because of their distance.

Two sites identified by the database search were identified on the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) list which includes sites designated for investigation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). One CERCLIS site is the former gas plant in the block bound by Beach, Jefferson, Hyde, and Leavenworth streets (identified as 680 Beach Street) as described above. The other CERCLIS site is a laundry service. Both sites were recommended for no further action following a preliminary assessment or site inspection.⁹ Five sites were identified on the Cal-Sites list which includes sites that have been identified by the Historical Abandoned Site Survey Program and researched by the California Department of Health Services (currently

⁹ A preliminary assessment and site inspection are the first two steps of investigation under CERCLA to identify whether a site is potentially contaminated. A preliminary assessment generally includes a review of site information and a site visit. If the potential for contamination is indicated, then a site inspection is generally conducted to review the site in more detail and samples are usually collected from areas that are suspected to be contaminated.



(Not to Scale)

LOCATION OF POTENTIAL HAZARDOUS WASTE SITES

(see also Table 14, page 154)

FIGURE NO. 18

Table 14

Potential Hazardous Waste Sites within a One-mile Radius of the Project Site.

Map No.	Site Name	Site Address	CERCLIS	CAL-SITES	CORTESE	LUST
1	Beaverstone Bay Development/Shell	500 Bay Street			x	x
2	Waterfront Iron Works	335 Bay Street		x		
3	Unocal	490 Bay Street			x	x
4	SF Muni Kirkland Bus Yard	151 Beach Street			x	x
5	Fresco Properties	350 Beach Street			x	x
6	Vanerp, Dirk Metalsmiths	619 Beach Street		x		
7	PG&E Gas Plant /Selby Smelter Site	680 Beach Street	x			
8	Golden Gate Refuse Company	600-690 Chestnut Street		x		
9	Chestnut Property	650 Chestnut Street				x
10	Red Star Laundry	920 Chestnut Street	x			
11	Chevron	1196 Columbus Avenue			x	x
12	Port of San Francisco	Base Hyde Street				x
13	Oswald Machine Works	2936 Hyde Street		x		
14	Mobil Bulk Plant	440 Jefferson Street			x	x
15	Shell	899 North Point Street			x	x
16	Industrial Manufacturers	2594 Taylor Street		x		
17	Kodak	3250 Van Ness Avenue			x	

Abbreviations:

CERCLIS = Comprehensive Environmental Response, Compensation, and Liability Information System

CAL-SITES = Listing of potential hazardous waste sites maintained by the Department of Toxic Substances Control

CORTESE = Listing of potential and confirmed hazardous waste sites, previously maintained by the Office of Planning and Research

LUST = Leaking Underground Storage Tank List maintained by the Regional Water Quality Control Board

Notes:

See text of Appendix E for explanation of each database identified

Map number refers to the site number shown on Figure 18.

Source: Orion Environmental Associates; NATEC Environmental Reporting Service, January 16, 1995

known as the Department of Toxic Substances Control). These sites were identified by the agency as potential hazardous waste sites but sampling has not necessarily been conducted to evaluate the potential for contamination. Based on the database review, the Department of Toxic Substances Control has recommended no further action for three of the sites (including Oswald Machine Works which was located adjacent to the proposed utility alignment) but recommended a Preliminary Endangerment Assessment for the Golden Gate Refuse Company located at 600 to 690 Chestnut Street and Industrial Manufacturers located at 2594 Taylor Street.¹⁰ A Preliminary Endangerment Assessment would identify the potential risks at these sites. However, both of these sites are more than one-half mile from the proposed utility alignment and were not reviewed further because they are not expected to affect soil or groundwater quality at the proposed utility alignment.

Nine sites were identified on the Cortese list which includes both potential and confirmed hazardous waste sites as of November 1990. Eight of these sites were also identified on the Leaking Underground Storage Tank (LUST) list which includes sites with confirmed leaking underground storage tanks indicating that they were on the Cortese list because of a confirmed leak. Of these sites, six are located within one-half mile of the proposed utility alignment; the location of each site is shown on Figure 18. Files available at the San Francisco Bay Regional Water Quality Control Board, San Francisco Department of Public Health, and the Port were reviewed for those six sites located within one-half mile of the proposed utility alignment to assess possible effects on the subsurface conditions at the proposed utility alignment.

Based on the information obtained from the file reviews, each of the sites identified is evaluated for its potential to affect soil and groundwater quality at the proposed project site in Table 15. The location of each site is shown on Figure 18. An underground storage tank previously located at the base of the Hyde Street Pier is identified as having a high potential to impact the proposed utility alignment. Information regarding the underground storage tank removal by the Port was not available in the files maintained by the San Francisco Bay Regional Water Quality

¹⁰ A preliminary Endangerment Assessment is an investigation conducted to determine whether current or past waste handling practices have resulted in the release or threatened release of hazardous substances which pose a threat to public health or the environment. If the investigation indicates a potential threat, a site investigation and subsequent clean up of the site would be required to mitigate any potential threats.

Table 15 Summary of Site Conditions for Potential Hazardous Waste Sites Within 1/2 Mile of Planned Utility Alignment

Map No.	Site Name/ Address	Incident	Soil Contamination	Groundwater Contamination	Potential to Impact Planned Utility Alignment	Comments
1	Beaverstone Bay Development /Shell 500 Bay Street	UST	Copper: 330 mg/kg Lead: 4,176 mg/kg TPHg: 990 mg/kg Benzene: 7.9 mg/kg	TPHg: 5.3 mg/l Benzene: 1.4 mg/l	Low	Oil was identified in 10 of 22 groundwater monitoring wells located on and off site. A waste oil sample contained a total of 474 mg/kg of SOCs. The site has been redeveloped as a Hyatt Hotel, however no documentation of remediation is available in files. Planned site mitigation included excavation with treatment and off-site disposal of soil. The SFDPH required Shell to submit further information in a letter dated May 3, 1994.
3	Unocal 490 Bay Street	UST removal	NA	TPHg: 3.4 mg/l Benzene: 4.3 mg/l	Low	Free product identified on groundwater. 2,045 gallons were recovered but thick oily product remains on groundwater surface. Down gradient extent of dissolved constituents has not been characterized. 380 cubic yards of soil were removed during a soil remediation. Analytical data for soil are not available in RWQCB files. Investigation did not include analysis for nonpetroleum constituents. Case closure was requested by the site owner but denied by the SFDPH.
5	Fresco Properties 350 Beach Street	USTs, former coal gasification plant	PNAs: 180 mg/kg	TPHg: 6,600 mg/l	Low	Oil was identified on the groundwater in seven of eight borings. Off-site source of diesel suspected.

See last page of table for explanation of abbreviations.

Table 15 Summary of Site Conditions for Potential Hazardous Waste Sites Within 1/2 Mile of Planned Utility Alignment

Map No.	Site Name/ Address	Incident	Soil Contamination	Groundwater Contamination	Potential to Impact Planned Utility Alignment	Comments
11	Chevron 1196 Columbus Avenue	UST removal	TPHg: 2,400 mg/kg TPHd: 1,100 mg/kg Benzene: 7.0 mg/kg Oil and Grease: 0.070 mg/kg	TPHg: 0.110 mg/l TPHd: ND Benzene: ND	Low	Oil and grease was also identified in soil samples from the UST excavation at higher concentrations than in subsequent soil samples from borings. Site closure was requested but denied by the SFDPH because TPHg was identified in two downgradient wells during the first quarter of 1994. Only limited information was available in files, no documentation of any remediation activities was available.
12	Port of San Francisco Base of Hyde Street	Previous UST removal	TPH: 450 mg/kg	Unknown	High	Soil contamination identified during nearby investigation. Assumed by the Port to be a result of a UST removed a long time ago.
6	Mobil Bulk Plant 440 Jefferson Street	Above ground storage tanks, UST	TPHg: 4,200 mg/kg TPHd: 21,000 mg/kg Benzene: 19 mg/kg	TPHg: 2.7 mg/l TPHd: 16.0 mg/l Benzene: 0.053 mg/l	Moderate	Free product was identified in six of 13 on and off site wells. Soil remediation to include removal of soil within bermed area. Groundwater remediation to include installation of recovery trench and wells. There was a previous spill of product in 1990.

Abbreviations:

Map number refers to the site number provided in Figure 18. See page 153 for explanation of criteria used to evaluate the potential impact to planned utility alignment.

mg/kg = milligrams per kilogram, equivalent to parts per million
 NA = Data were not available at time of file review
 PNAs = Polynuclear aromatic hydrocarbons
 TPH = Total petroleum hydrocarbons of unspecified type
 TPHg = Total petroleum hydrocarbons identified as gasoline
 UST = Underground storage tank
 RWQCB = SF Bay Regional Water Quality Control Board

mg/l = milligrams per liter, approximately equivalent to parts per million
 ND = Constituent was not detected in sample
 SOCs = Semivolatile organic compounds
 TPHd = Total petroleum hydrocarbons identified as diesel
 TPHoil = Total petroleum hydrocarbons identified as oil
 SFDPH = San Francisco Department of Public Health

Source: Orion Environmental Associates, 1995. Based on file review information obtained from the San Francisco Regional Water Quality Control Board, Port of San Francisco, and San Francisco Department of Public Works Bureau of Construction Management

Control Board. However, a letter from the Port indicates that petroleum hydrocarbons were identified in a soil sample from a boring drilled in the proposed utility alignment.¹¹

The former Mobil Oil Bulk Plant is located within the proposed project area and is considered to have a moderate potential for impacting the proposed utility alignment because it is located approximately 150 feet to the east. Petroleum related compounds have been identified in both the soil and groundwater at this site and up to two inches of free product¹² have been identified on the groundwater. This site is currently undergoing remediation.

The remaining four sites are located to the southwest of the proposed project. Free product has been identified on the groundwater at three of these sites. However, each of these sites is considered to have a low potential for affecting the proposed utility alignment because of their distance from the proposed project and because they are not located directly upgradient of the proposed project (the general direction of groundwater flow in the vicinity of the proposed project is northward).

Previous Site Investigations

A site investigation was conducted in June 1989 as part of the planning for the proposed Fisherman's Wharf Seafood Center.¹³ As part of this investigation, three soil borings were drilled to a depth of five feet within the proposed utility alignment (see Figure 16, page 103 for location of borings). A soil sample from the bottom of each boring was analyzed for Title 22 metals (including lead)¹⁴ and total petroleum hydrocarbons as gasoline, diesel, and motor oil.¹⁵

¹¹ Port of San Francisco, 1989. Letter from Jim Read to Department of Public Health. October 3.

¹² Petroleum products such as gasoline and diesel are immiscible with water when in their pure form. Because they are generally lighter than water, they will float on top of the groundwater surface when present and are called "free product".

¹³ AGS, Inc., 1989. Field Sampling and Chemical Laboratory Testing, Fisherman's Wharf Seafood Center. August 22.

¹⁴ Title 22 metals include a list of 17 metals contained in Title 22 of the California Code of Regulations that are considered persistent and bioaccumulative toxic substances. The metals include antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc.

¹⁵ Analysis for total petroleum hydrocarbons identifies petroleum hydrocarbons present in a sample. The hydrocarbons can be distinguished as gasoline, diesel, oil, or other petroleum hydrocarbons based on the range of hydrocarbons identified in the chromatogram for the sample.

Metals are naturally occurring in soil and there are no regulatory criteria to identify what levels of metals may be potentially hazardous to public health and/or the environment. For screening purposes, the total metals concentrations are compared to the total threshold limit concentration and ten times the soluble threshold limit concentration which are used by the State of California to classify a waste.¹⁶ Only those metals concentrations that exceed these criteria are discussed in this section.

Mercury was identified at a total concentration of 2.7 milligrams per kilogram in the soil sample from Boring B1 and at 2.1 milligrams per kilogram in the soil sample from Boring B2. These concentrations are greater than ten times the soluble threshold limit concentration of 0.2 milligrams per liter for mercury. Thallium was identified at 70.1 milligrams per kilogram in the soil sample from Boring B2; this concentration is greater than ten times the soluble threshold limit concentration of 7.0 milligrams per liter for thallium. These are the only metals identified in the soil samples that exceeded the total threshold limit concentration or ten times the soluble threshold limit concentration. The total concentrations do not exceed ten times the soluble threshold limit by much. However, a waste extraction test would be required to determine whether the soluble concentrations exceed the soluble threshold limit concentrations.

Total petroleum hydrocarbons as gasoline was identified at 78 milligrams per kilogram and total petroleum hydrocarbons as motor oil was identified at 412 milligrams per kilogram in the soil sample from Boring B3. Total petroleum hydrocarbons were not identified in the soil samples from Borings B1 and B2. The Port of San Francisco has stated that Boring B3 was installed in the vicinity of a "long since removed" underground storage tank.¹⁷ The location of this boring is described as Site 12 in Table 14. Based on current Regional Water Quality Control Board policy, the soil removed for installation of the utilities may be placed back in the utility

¹⁶ Based on regulations contained in Title 22 of the California Code of Regulations, a waste would be considered hazardous for disposal purposes if the total concentration of a metal exceeded the total threshold limit concentration (TTL) or if the soluble concentration exceeded the soluble threshold limit concentration (STLC). A waste extraction test is required to identify the soluble concentration of a metal. Because this test involves a ten to one dilution of the sample, the soluble concentration could not exceed the STLC unless the total concentration is at least equal to ten times the STLC. If the total concentration is less than ten times the STLC, a waste extraction test would not be required and the waste would not be considered hazardous.

¹⁷ Port of San Francisco, 1989. Letter from Jim Read, Port of San Francisco, to Les Lum, San Francisco Department of Public Health, October 3.

excavation.¹⁸ However, excess soil would not be suitable for unrestricted disposal, as discussed on page 161, because of the levels of petroleum hydrocarbons identified. Treatment or off-site disposal of this soil would be required.

Analysis of soil samples during the 1989 investigation included analysis of only Title 22 metals and petroleum hydrocarbons. Based on historical land uses in the vicinity of the proposed utility alignment there are additional hazardous materials that have been used and may potentially be present in the soil. The types of hazardous materials that may be present in the soil due to historic land uses are summarized in Table 13, page 148 (see Figure 16, ENVIRONMENTAL SETTING, page 103 for the locations of the addresses referenced). In addition, the "Maher" Ordinance requires analysis for additional chemicals that may be present in the soil; the analyses required by the "Maher" Ordinance include inorganic and bioaccumulative substances,¹⁹ volatile organic compounds,²⁰ PCBs, pH, flammability, cyanides, sulfides, and methane and other flammable gasses as well as other chemicals that may be required by the Department of Public Works.

Sampling of the soil for analysis of additional chemicals would be required by the "Maher" Ordinance prior to construction once the specific location of ground disturbing activities is identified. If the sampling identifies chemicals present at concentrations that could potentially threaten public health and/or the environment, the "Maher" Ordinance would require submittal of a site mitigation plan and remediation of the site to acceptable clean up levels as described in MITIGATION MEASURES, page 169.

Disposal of Soil

The Port of San Francisco estimates that more than 50 cubic yards of soil would be excavated for the installation of the proposed utilities. Sampling of any excess soil that could not be

¹⁸ Regional Water Quality Control Board, San Francisco Bay Region, 1995. Memorandum from Stephen I. Morse, Acting Executive Director, to All Utilities, Public and Private. August 18.

¹⁹ The required inorganic persistent and bioaccumulative substances are listed in Section 66699(b) of Title 22 of the California Code of Regulations.

²⁰ The required volatile organic compounds are listed in Title 40 of the Code of Federal Regulations, Part 122, Appendix D, Table II.

placed back in the excavation would be required to classify the soil for disposal purposes. If the soil is classified as nonhazardous but contains petroleum hydrocarbons, it may be treated at a nearby City owned bioremediation facility located at Pier 96 and disposed of as a nonhazardous waste. If the soil is classified as a hazardous or restricted waste, it may be disposed of at an appropriately permitted off-site disposal facility. Depending on the chemical quality it may be disposed of at a Class I, Class II, or Class III disposal facility within California. Soil with petroleum hydrocarbon levels greater than 100 milligrams per kilogram must be treated or disposed of at a Class I or II landfill. Soil with detectable levels of petroleum hydrocarbons below 100 milligrams per kilogram can be disposed of at a Class III landfill.²¹ Alternatively, the soil may be disposed of at an out-of-state disposal facility that would be subject to federal, state, and local regulations. Additional sampling and analysis is identified as a mitigation measure to determine the appropriate disposal method for the soil (see MITIGATION MEASURES, Section V.H, Hazards). If the soil is classified as a hazardous waste, hauling and disposal of the soil would require a hazardous waste manifest and must be done by a state certified hazardous waste hauler.²²

EXPOSURE TO SUBSURFACE HAZARDOUS WASTES DURING CONSTRUCTION

During soil excavation, humans could be exposed to dust emissions, chemical vapors, or other airborne contaminants. Exposure could occur through inhalation of vapors, fumes, or contaminated dust; through direct contact with contaminated materials; or through direct or indirect ingestion. The excavation contractor would be required to comply with federal and state regulations designed to protect worker and public health from exposure to hazardous materials. A Site Health and Safety Plan would be prepared which would address measures necessary to protect worker and public health during excavation and disposal of the soil (see MITIGATION MEASURES, Section V.H, Hazards). The plan would establish policies and procedures to protect workers and the public from potential hazards posed by hazardous materials present in

²¹ All California landfills have been divided by regulatory authority into the categories of Class I, Class II, or Class III facilities. Only Class I facilities can accept hazardous wastes, although the chemical concentrations must be less than the federal land disposal restriction treatment standards (land ban). Class II and III facilities can accept nonhazardous wastes that meet acceptance criteria determined by the state within broad guidelines for each class of landfill. Each landfill also has individual acceptance criteria. Most ordinary household solid wastes are disposed of at Class III landfills.

²² Waste haulers are certified in accordance with Title 22 of the California Code of Regulations, Chapter 13, Section 66263.17.

the soil, and it would be prepared in accordance with federal and California OSHA regulations for health and safety plans. During construction, a dust control program would also be implemented, if necessary, to minimize public health and air quality impacts associated with chemical laden dust (see MITIGATION MEASURES, Section V.H, Hazards).

The California OSHA regulates worker exposure to hazardous materials. To reduce the potential for public health risks due to dust emissions during construction activities, dust control measures would be taken to reduce visible dust emissions and air quality pollutants. This would include regular watering of any exposed soil (using non-potable water as required by Ordinance 175-91) and covering the stockpiles and trucks carrying spoil materials.

To reduce the potential for risks to public safety, a fence would be erected around any area where chemicals have been identified in the soil from the time that ground surfaces are exposed until the time that all remedial activities have been completed. Site access would also be restricted to necessary personnel. Warning signs prohibiting access by the general public onto the excavation site would also be posted at all construction access points.

DISPOSAL OF DREDGED SEDIMENTS

It is estimated that approximately 20,000 cubic yards of sediment would be dredged to create the planned berths. This would require permission from the U.S. Army Corps of Engineers and the Regional Water Quality Control Board. Sediment sampling in 1994 indicated that the sediments near Pier 45 contain detectable levels of antimony, cadmium, chromium, copper, lead, mercury, nickel, silver, zinc, sulfides, tributyltin, PNAs, phthalates, and oil and grease.²³

Bioassay results indicate that the sediments have less toxic effects than those from Alcatraz Island; based on this it is expected that the sediments would be suitable for disposal at the Alcatraz disposal site. Minimal worker or public exposure to sediments would be expected during sediment dredging and disposal.

²³ Advanced Biological Testing, 1995. Results of Chemical, Physical, and Bioassay Testing of Sediments Proposed for Maintenance Dredging at Fisherman's Wharf, Port of San Francisco. January 12.

HAZARDOUS MATERIALS HANDLING DURING HARBOR AND PIER OPERATION

Hazardous materials handling within the project area would be improved with the proposed project. As part of the improved facilities, a new/replacement fuel delivery pipeline from the seawall to the fuel dock and new spill containment equipment would be installed. The new pipeline would include automatic shut off features, a leak detection system, a remote operated shut off switch, and pressure sensitive valves which would reduce the potential for accidental spillage or leakage from the fuel delivery system. Addition of spill containment equipment would allow prompt containment of any material that may be accidentally released. These measures would reduce the potential for worker and public exposure to hazardous materials used at the fueling facility. Lighting would also be installed at the fuel dock.

The Port will continue to provide the above ground tank to collect waste oil from fisherman who use the harbor; this waste oil is recycled by an outside contractor to the Port of San Francisco. The potential for illegal dumping of waste oil into the Bay by fisherman is and will continue to be reduced with or without the project because this facility is provided by the Port.

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V. MITIGATION MEASURES

In the course of project planning and design, measures have been identified that would reduce or eliminate potential environmental impacts of the proposed project. Some of these measures have been, or would be, voluntarily adopted by the Port and thus are proposed; some are under consideration by the project sponsor. Implementation of some measures may be the responsibility of other agencies. Measures under consideration may be required by the Port Commission, or the Planning Commission as conditions of project approval, if the project were to be approved. Each measure and its status is discussed below.

There are measures that are now required by law that were enacted for the purpose of and serve to prevent potential impacts from a proposed project. They are summarized here for informational purposes. These measures include: observance of state and federal OSHA safety requirements related to handling and disposal of hazardous materials; dredging; police and fire protection; utilities services; and cultural resources.

No impacts are identified for Water Quality, Land Use and Zoning, Marine Biology, Air Quality, Public Utilities, Hazards or Transportation. These areas do not require mitigation; however, several improvement measures have been suggested to the Port during preparation of this EIR and many of these measures are included as part of the proposed project. All of these measures are described in the following section.

A. WATER QUALITY (Best Management Practices)

Because of the proximity of the project site to Aquatic Park and the concern about water quality issues, the Port has agreed to expand their existing "Best Management Practices Plan" to include specific measures described in Section IV, ENVIRONMENTAL IMPACTS for protecting and enhancing water quality in the harbor.

The Port has in place a "Best Management Plan" for maintenance dredging, oil spills, and cleanup of floatables in the Harbor. A brief summary of measures required by law and those described as part of the project follows:

MEASURES REQUIRED BY LAW

1. Oil spill response in the Harbor is regulated by the federal Clean Water Act and the California Oil Spill Response Act, with enforcement by the U.S. Coast Guard and the California Department of Fish and Game, respectively. These regulations require clean-up of fuel spills and authorize assessment of penalties for violation of water quality regulations.
2. Dredging in the Harbor and disposal of dredge spoils is regulated by the U.S. Army Corps of Engineers (under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act) and the Bay Conservation and Development Commission. The Regional Water Quality Control Board certifies that water quality objectives are met as part of the permit approval process for dredging.
3. Other wastes from boats (floatables) are regulated by the Port as part of the Rules and Regulations for Commercial Fishing Vessels. Item No. 847 under these regulations states that 'no person shall throw, discharge or deposit from any vessel or from the shore or float or otherwise any kind or refuse or sewage whatsoever into or upon the waters of the harbor, or in, on or upon the banks, walls, sidewalks, or beaches or any waters within the jurisdiction of the San Francisco Port Commission. All garbage must be removed from the area.' Item No. 34, Section 8C, Item 847 under the Port Rules and Regulations states that 'No person shall dump or discharge oil, spirits, flammable liquids or contaminated bilge water into any area under the jurisdiction of the San Francisco Port Commission.' The Port Wharfinger is responsible for enforcing these rules.

MEASURES INCLUDED AS PART OF THE PROPOSED PROJECT

1. The Port currently maintains and would continue to maintain a spill prevention and response plan that specifies procedures to follow in the event of a fuel spill. The plan delineates source identification, clean-up, and notification (including coordination with the U.S. Coast Guard) procedures to contain and minimize any effect of a fuel spill in the Bay. The Wharfinger is designated as the Local Response Coordinator for the Harbor and maintains a current Oil Spill Notification List of federal and state agencies to be contacted in the event of a spill, to provide information on the nature and location of the spill. Emergency fuel clean-up equipment is maintained at the existing fuel dock and at the Wharfinger's office and includes absorbant booms and absorbant pads. The Port would continue to train personnel in the use of this equipment and would continue to educate boat owners/operators about illegal discharges and spills in the Bay and in harbor waters.

2. The Port is proposing installation of new facilities to minimize the potential for fuel leaks from the storage tanks to the fuel dock. These would replacement of the fuel delivery pipeline from the seawall to the fuel dock that would include automatic shut off features; a leak detection system; remote operated shutoff switch and pressure sensitive features.

3. The Port is proposing an oil-water separator for the fuel dock area. Impermeable surfaces (docks and parking areas) would be designed to collect runoff in a depressed area directing stormwater to the oil-water separator prior to disposal to the Bay.

4. The Port is proposing a pump-out station at the fuel dock for disposal of chemical toilet waste on board boats in the harbor. The pump-out would have a capacity of 20 gallons per minute and would be connected to the City's sanitary sewer system. The proposed pump-out would reduce the likelihood of illegal discharges to the Bay. The wharfinger would be responsible for enforcing the use of the pump-out by boats in the harbor.

V. MITIGATION MEASURES

5. The Port, in coordination with the San Francisco Fire Department, will continue to use a fireboat to periodically hose off the breakwater during outgoing tides so that debris and animal wastes are dispersed into the Bay and not into the Harbor.
6. The Port will continue to use a work skiff one or two hours each day to clean up floating debris in the harbor. The Port will increase the frequency of the skiff operation, on an as needed basis.
7. The Port proposes a dock design that includes boat berths enclosed on three sides by floats encased with foam pontoons that would ride slightly below the surface of the water. No berthing would be provided on the west side of the dock, nearest Aquatic Park. The westernmost float would be fitted with a flexible 'skirt' which would eliminate gaps between floats.
8. The Port would coordinate with swimmers at Aquatic Park regarding scheduling of dredging activities to avoid conflict with scheduled activities.
9. Port construction specifications would include use of temporary wraps for piles removed in the harbor. This will reduce the release of particles to the Bay.
10. The Port will continue not to conduct dredging activities during herring season.
11. The Port will continue to coordinate with restaurant owners and nearby commercial operators to improve housekeeping practices (such as improved grease disposal bins, dumpsters with side covers, increased cover garbage receptacles, sidewalk sweeping, etc.) to reduce litter and trash entering harbor wastes.
12. The Port will continue the weekday supervision of the harbor and will consider adding weekend supervision of boat activities.

B. PUBLIC SERVICES

REQUIRED BY LAW OR CODE

1. The San Francisco Fire Department, Bureau of Fire Prevention, checks plans for alterations and new construction of buildings for compliance with laws and ordinances related to egress, fire protection, and fire spread control.¹ Implementation of the proposed project would require compliance with local regulations, which might include installation of: a minimum of two suction hydrants on Pier 45; dry and wet standpipe outlets; additional fire alarm call boxes; sprinkler system in Sheds A and C; floating marine diesel fuel depot - automatic fire suppressant equipment; signage for egress; and provisions for fire lanes and curb marking and installation of low and high pressure hydrants, to meet fire department regulations.

C. HAZARDS

There were no significant impacts identified in relation to hazardous wastes. The measures identified below are those that will be required by law to address the potential presence of hazardous wastes within the project area.

MEASURES REQUIRED BY LAW

1. Prior to demolition of the Bell Smoked Fish Building, the Port will ensure that a building survey be conducted to identify polychlorinated biphenyl- (PCB) containing electrical or hydraulic equipment, lead-based paint, fluorescent lights potentially containing mercury vapors, and other potential hazardous building materials. If necessary to protect the public health, construction workers, or the environment, removal and abatement of identified hazardous building materials or other hazardous substances will be conducted prior to demolition or renovation of existing structures. The abatement will be conducted in accordance with the requirements of the Bay Area Air Quality Management

¹ San Francisco Fire Department Annual Report, 1992 - 1992, June 1, 1994.

District, the California Occupational Safety and Health Administration, and federal, state and local laws including Titles 22 and 23 of the *California Code of Regulations* (hazardous materials and water quality) and the City's Hazardous Materials Ordinance. The Port will ensure that demolished piles are appropriately disposed of. Approximately 120 piles would be demolished and disposed of.

2. The Port will ensure that the "Maher" Ordinance be followed for excavation of more than 50 cubic yards of soil. First, a site investigation must be conducted, including a minimum of three soil borings and analysis of a minimum of three soil samples for inorganic persistent and bioaccumulative substances as listed in Section 66699 (b) of Title 22 of the *California Code of Regulations*; volatile organic compounds; polynuclear aromatic hydrocarbons; total petroleum hydrocarbons as gasoline, diesel, and oil; oil and grease; polychlorinated biphenyls; pesticides; pH; flammability; cyanides; sulfides; methane and other flammable gasses; and ammonia. The results of the analyses will also be used to identify appropriate disposal or treatment options for any soil produced during excavation.

Upon completion of the investigation, the Port will ensure that a soil sampling and analysis report be prepared to describe the methods and results of the investigation. In accordance with the "Maher" Ordinance, the report will be submitted to the San Francisco Department of Public Works, and the San Francisco Department of Public Health.

If the soil sampling and analysis report indicates the presence of hazardous wastes in the soil, then the Port will ensure that a site mitigation plan is submitted to the San Francisco Department of Public Works and the San Francisco Department of Public Health. The site mitigation plan will be prepared by a qualified professional and include a determination as to whether the hazardous materials in the soil are causing or likely to cause substantial environmental or health and safety risk as well as measures identified to mitigate the risks. Any recommended soil sampling and analysis to demonstrate appropriate mitigation will be described in the plan.

V. MITIGATION MEASURES

In accordance with the "Maher" Ordinance, the Port will ensure that any mitigation measures identified be carried out. Upon completion, a qualified professional will certify that all of the mitigation measures described in the mitigation report were performed and verified by conducting follow-up soil sampling and analysis.

3. The Port will ensure that the construction contractor provides and implements a Health and Safety Plan prepared by a certified industrial hygienist to meet all applicable federal, state, and local environmental and worker safety laws. The plan will establish policies and procedures to protect worker and the public from potential hazards posed by hazardous materials at the project site, and it will be prepared according to federal and California OSHA regulations for hazardous waste health and safety plans. Title 29 of the Federal Code of Regulations, Section 1910.124, and Title 8 of the California Code of Regulations Section 3203, include requirements for the preparation of health and safety plans. The Site Health and Safety Plan will include items such as the following, as applicable to site conditions: identification of contaminants, potential hazards, material handling procedures, dust suppression measures, personal protection clothing and devices, controlled access to the site, health and safety training requirements, monitoring equipment to be used during construction to verify health and safety of the workers and the public, measures to protect worker and public health and safety, and emergency response procedures.

D. CULTURAL RESOURCES

The Initial Study (see Appendix A.1, Page A1) summarized information from "A Cultural Resources Overview of the Fisherman's Wharf Seafood Center Project Area and Environs" (March 1989) and determined that no further analysis of this topic was needed in this EIR. The Initial Study provided that the program of archaeological monitoring described in the 1989 report would mitigate the potentially significant impacts of the project and is therefore included in the EIR.

MEASURE INCLUDED IN PROJECT

1. Given the strong possibility of encountering the remains of cultural or historic artifacts or features within the project site, the Port would retain the services of an archaeologist(s) with expertise in both prehistoric and ethnographic materials and maritime history. The archaeologist would supervise a program of on-site monitoring during site excavation and would record observations in a permanent log. Should cultural or historic artifacts be found following commencement of excavation activities, the archaeologist would assess the significance of the find, and immediately report to the Environmental Review Officer (ERO) and the President of the Landmark Preservation Advisory Board (LPAB). Upon receiving the advice of the consultants and the LPAB, the ERO would recommend specific mitigation measures, if necessary. The monitoring program, whether or not there are finds of significance, would result in a written report to be submitted first and directly to the ERO, with a copy to the Port.

Excavation or construction activities which might damage discovered cultural resources would be suspended for a total maximum of four weeks over the course of construction to permit inspection, recommendation and retrieval, if appropriate.

2. If cultural resources of potential significance are discovered, an appropriate security program would be implemented to prevent looting or destruction. Any discovered cultural artifact assessed as significant by the archaeologist upon concurrence by the ERO and the President of the LPAB, would be placed in a repository designated for such materials or displayed in a public place to be determined in conjunction with the ERO and the President of the LPAB.

VI. SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

In accordance with Section 21067 of the California Environmental Quality Act (CEQA), and with Sections 15040, 15081 and 15082 of the State CEQA Guidelines, the purpose of this Section is to identify impacts that could not be eliminated or reduced to an insignificant level by mitigation measures included as part of the proposed project, or by other mitigation measures that could be implemented.

No significant environmental effects that cannot be avoided if the proposed project is implemented have been identified.

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VII. ALTERNATIVES TO THE PROPOSED PROJECT

This Section identifies alternatives to the proposed project and discusses environmental impacts associated with each alternative. The Port of San Francisco could approve an alternative instead of the project if the decision makers believed the alternative would be more appropriate for the site(s).

The range of reasonable alternatives must focus on those alternatives that can feasibly accomplish most basic project purposes and avoid or reduce one or more of the project's significant impacts. The EIR is required to "identify and explain the rationale for rejecting those alternatives considered but removed from detailed study. The factors taken into account when selecting an alternative may include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the project proponent can reasonably acquire, control or otherwise have access to the alternative." (CEQA Amended Section 15088.5, September 19, 1994)

Sufficient information on alternatives is required to allow meaningful evaluation and comparison with the proposed project. As part of the environmental review process for the Hyde Street Harbor/ Pier 45 project, the City has analyzed three alternatives that would feasibly accomplish most basic project purposes. The Port, the project sponsor, has not rejected any of the three alternatives, however, the Hyde Street Harbor, maximum expansion alternative proposed by the Port in 1988 is not appropriate at this time, given the decreasing volume of fish being landed by commercial fishing boats in the Bay Area. This alternative is retained for informational purposes and for future possible consideration by the Port. Based on environmental and public review, the Port will select an apparent best alternative for detailed design and implementation.

One alternative design for the Harbor and Harbor Services Area is considered, and two alternative uses of Sheds A and C on Pier 45 are considered. Because most physical changes for each of the alternatives are the same as for the proposed project, the analysis focuses on features or uses that would have differences. For Alternative A, the additional Harbor berths and Harbor Services Area alternative, the analysis focuses on potential effects to water quality and

marine biology from an expanded dock area (86 floating berths compared with 40 floating berths for the proposed project). For the Pier 45, Sheds A and C alternative uses (alternatives B & C), the analysis focuses on identifying differences in traffic and parking impacts. None of the alternatives, including the proposed project would generate more than 2,000 vehicles per day, which is the threshold used by Bay Area Air Quality Management District considered capable of producing air quality problems, therefore mobile emissions are not addressed in this DEIR.

In addition to reasonable alternatives to the project, CEQA requires that the EIR evaluate the "No Project" Alternative. The No Project Alternative analysis must discuss existing conditions as well as reasonably foreseeable future conditions without the project based on current plans and available infrastructure.

NO PROJECT ALTERNATIVE

The No Project Alternative would consist of leaving the Hyde Street Harbor and Pier 45 Sheds A and C as they exist in their present condition. Information describing the existing conditions of the project area is in Section III. SETTING. The key features of the No Project Alternative are summarized below.

HYDE STREET HARBOR

- No change; retain 116 assigned boat slips + 14 rafted boats in Fisherman's Inner and Outer Lagoons, and unauthorized or controlled anchoring of boats in the outer harbor would continue.

PIER 45

- Sheds A and C - retain existing storage of fishing gear, parking (50 vehicles in sheds, 120 spaces in valley, 68 spaces on "forepier")
- Continue special events (Dickens Fair, Festa, private parties, sporting events)
- Retain exhibit space for arts, cultural exhibits
- Retain storage for fishing gear, work area
- Retain staging area for visiting ships
- Retain Pampanito area
- Retain 1,000-sq. ft. office space in Shed A
- Retain public access (informal) along outside aprons of Pier 45

Without the development of the Proposed Project or alternatives at either Pier 45 or Hyde Street Harbor, there would be no change in the existing uses. At the Hyde Street Harbor boats would continue to side-tie and raft to other boats, and facilities for these activities would not be upgraded. No pump-out or restrooms would be available to fishing vessels or operators. On Pier 45, it is anticipated that the fish handling in Sheds B and D will increase and fully occupy the 140,000 sq. ft. The "valley" would continue to be used by commercial fish trucks.

Prior to the earthquake, Sheds A and C were partially vacant and provided support space for the area merchants, parking and space for special events. Without the development of the Proposed Project or alternatives, it is anticipated that Sheds A and C would serve to support the commercial fishing activities and would continue to be used for special events, such as the annual Festa Italiana. Transportation impacts associated with the No Project conditions would be similar to existing conditions.

ALTERNATIVE A – HYDE STREET FISHING HARBOR, MAXIMUM EXPANSION

The Maximum Expansion Alternative for the Fishing Harbor and Harbor Services resulted from the 1988 Feasibility Study, discussed in Section II. PROJECT DESCRIPTION. Survey information in 1988 defined future needs of the commercial fishing industry and indicated a need for an expanded facility for fishing boats and the need for a new Harbormaster's Building in the harbor area. The study surveyed 56 marinas used by commercial fishing boats in the San Francisco area and identified a need for 51 permanent and 67 transient berths at the Hyde Street Harbor. The 1988 study assumed that improvements to the Hyde Street Fishing Harbor would meet the needs of transient commercial fishing boats in the harbor.

Survey information in 1994-1995 indicated that the increased need no longer exists therefore this project alternative is not now considered reasonable by the Port staff. However, this alternative has been retained in this EIR for comparison purposes with the Proposed Project. In the event that the needs of the commercial fishing industry return to 1988 conditions in the relatively near future (5-10 years) this analysis could aid in consideration of future expansion of harbor facilities. The facilities for the Hyde Street Harbor, Maximum Expansion Alternative are shown in Figure 19 and briefly summarized below. Table 16 presents the quantity of Bay fill for Alternative A.

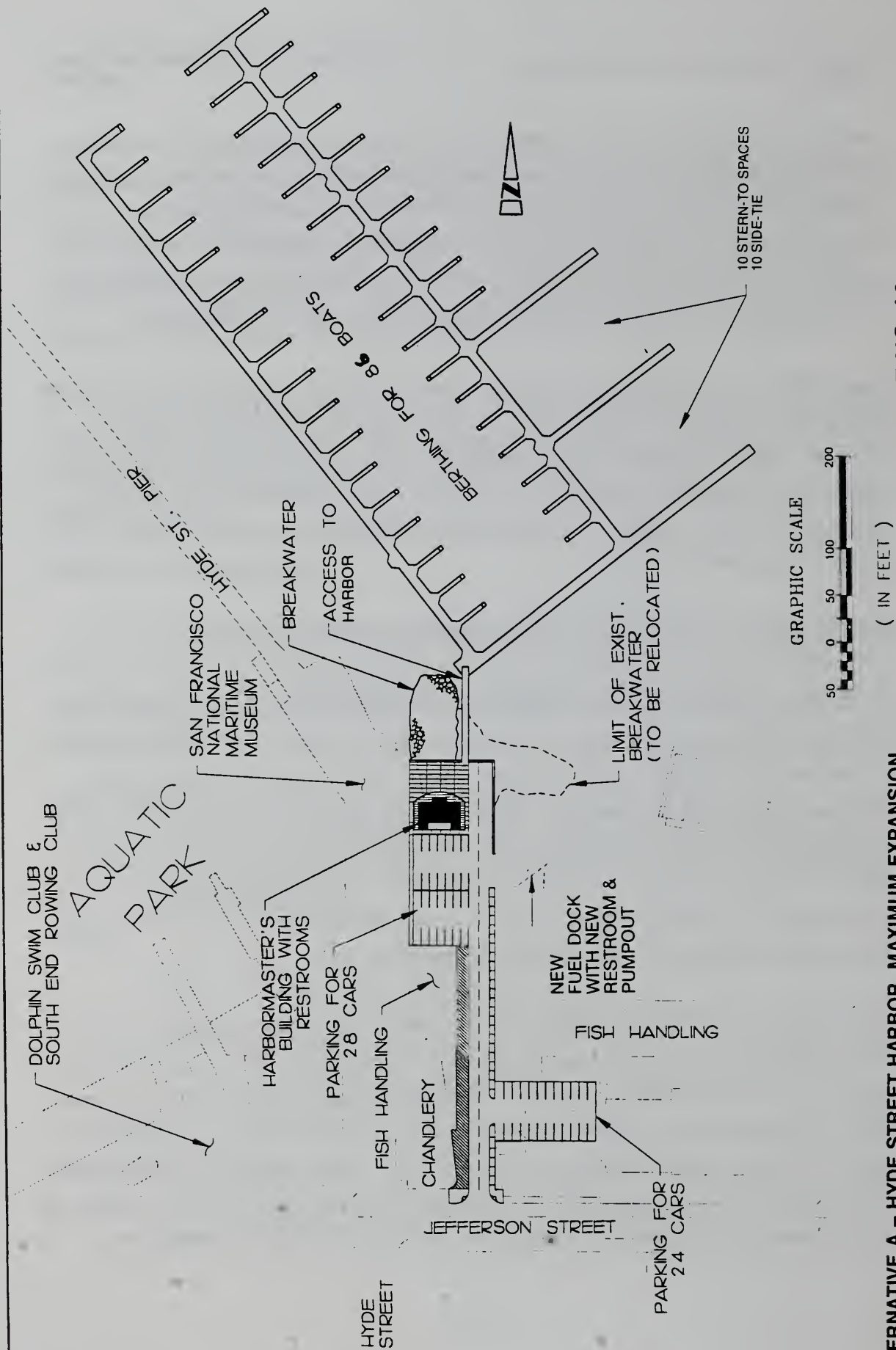


FIGURE NO. 19

ALTERNATIVE A - HYDE STREET HARBOR, MAXIMUM EXPANSION

SOURCE: PORT OF SAN FRANCISCO/THE DUFFEY COMPANY

TABLE 16: BAY AND SHORELINE BAND FILL BY BCDC CRITERIA FOR ALTERNATIVES

<u>Description</u>	<u>Proposed Project*</u>	<u>Alternative A</u>
Berthing		
Floats (SF)	17,700	32,150
Piles Supporting Floating Dock (CY)	270	635
Pier (in the Bay)		
Solid Fill (SF)	0	1,000
(CY)	0	282
Pile-Supported Fill (SF)	4,875	20,725
Pile-Supported Fill Removed (SF)	(1,420)	(2,820)
New Pier (in the Shoreline Band)		
Coverage, Solid Fill (SF)	7,150	8,900
(CY)	715	1,175
Pile-Supported Fill (SF)	2,325	3,890
Pile-Supported Fill Removed (SF)	(760)	(760)
TOTALS**		
Coverage/Fill in the Bay (SF)	22,723	54,228
Supporting by Piles (CY)	270	917
Coverage/Fill in the Shoreline Band (SF)	9,475	12,790
Solid Fill (CY)	715	1,175

Notes: * Alternatives B & C involve interior changes to the sheds on Pier 45; would have same amount of fill as proposed project.

** Does not include Fill Removed of 2,180 SF

SF = Square Foot of fill

CY = Cubic Yards of fill

Source: Port of San Francisco, 1996

HYDE STREET HARBOR

- Retain existing 116 assigned boat slips + 14 rafted boats in Fisherman's Wharf Inner and Outer Lagoons (same as proposed)
- Construct new harbor for 116 boats, including 86 floating berths, 10 side tie spaces and 10 stern tie spaces (compared with 60 boat proposed project; 126 piles compared with 53 piles for proposed)
- Construct new fuel dock (compared with use of existing fuel dock)
- 4,100-sq. ft. new Harbormaster's Building
- 32,150-sq. ft. of Bay cover (compared with 17,700 sf for proposed)
- 24 parking spaces approximately 200 feet south of the Pier on former "Bell Smoked Fish" site (same as proposed)
- 28 parking spaces on Pier (compared with 21 spaces proposed)

There were no substantial differences in traffic or parking for this Alternative compared to the proposed project because vehicle traffic associated with commercial fishing boats in the harbor does not occur during peak hours at critical intersections. Based on information in the 1988 Feasibility Study¹ fishing boats are launched throughout northern California, therefore a one-to-one ratio of vehicles to boats in Fisherman's Wharf harbor is not appropriately assumed. The larger berthing facility would accommodate about 60 more boats than the proposed project. Using the same assumptions about the ratio of vehicles to boats, it is appropriate to assume that not all of the additional boats in the harbor would result in additional vehicles.

Water quality conditions would be expected to remain similar to existing conditions, which is generally within the same range as water quality from nearby parts of San Francisco Bay and in compliance with Basin Plan water quality objectives because no direct relationship has been made between the fishing boats and water quality effects. No differences are identified for water quality between the maximum expansion harbor and the proposed project or no project. Construction of a new fuel dock would reduce the potential for future spills or accidental releases compared with use of the existing fuel dock. There would be short-term water quality effects (increased turbidity and suspended solids) during construction, but following construction conditions would be expected to be in compliance with Basin Plan water quality objectives similar to existing conditions, the No Project alternative, and the proposed project.

¹ Fisherman's Wharf Harbor Feasibility Study, Moffatt & Nichol, Engineers, et al, June 1, 1988.

Alternative A would increase the extent of Bay cover from floating berths by 14,450 sq. ft. compared with the proposed project. The total increase in fill/cover over the proposed project would be 31,505 sq. ft. of cover and 647 cubic yards of fill in the Bay, and 3,315 sq. ft. of cover and 460 cy of fill in the Shoreline Band. The Bay Plan would allow bay fill for water-oriented purposes, such as commercial fishing. Within the Shoreline Band, BCDC's primary criteria for evaluation is maximum public access; Alternative A would provide the same public access as the proposed project.

ALTERNATIVE B – PIER 45 SHEDS A AND C, CONFERENCE CENTER FOCUS

The differences between the Pier 45 Alternatives (B and C) and the Proposed Project are to be found in the interior building design and uses of the pier Sheds A and C. The conceptual design for the Conference Center Focus of the sheds is shown on Figure 20, and is summarized below.

PIER 45 - 205,000 square feet of new uses

- Visitor Center- 0 sq. ft. (compared to 25,000 SF for proposed project)
- Conference Center Focus - 60,000 sq. ft. of multi-functional conference facility and event space to be used for workshops, meetings and conferences, receptions, seafood trade shows, fishery festivals. (compared to 20,000 SF for proposed project)
- Parking - 50,000 sq. ft. (same as proposed project)
- Retail - 40,000 sq. ft., a variety of retail would be available to enhance the financial feasibility of the Center--seafood snack bar, theme kiosks, charterboat services (fish cleaning, packing, shipping); marine arts & crafts, aquaculture displays, books, videos are envisioned. (same as proposed)
- Office Space - 10,000 sq. ft. (same as proposed)
- Outdoor Public Access - 45,000 sq. ft. (same as proposed)

Travel Demand: The Conference Center alternative, which does not include the visitor center use as part of the proposed project, but has a greater square footage of conference facility, would be assumed to generate a higher number of vehicle-trips than the Proposed Project. This alternative would generate about 100 vehicle trips during the weekday AM peak hour (compared to 58 for the proposed project), 78 vehicle trips during the weekday PM peak hour (compared to 81 vehicle trips for the proposed project), and 134 vehicle trips during the weekend midday peak hour (compared with 98 for the proposed project). This represents an increase over the

HYDE STREET HARBOR

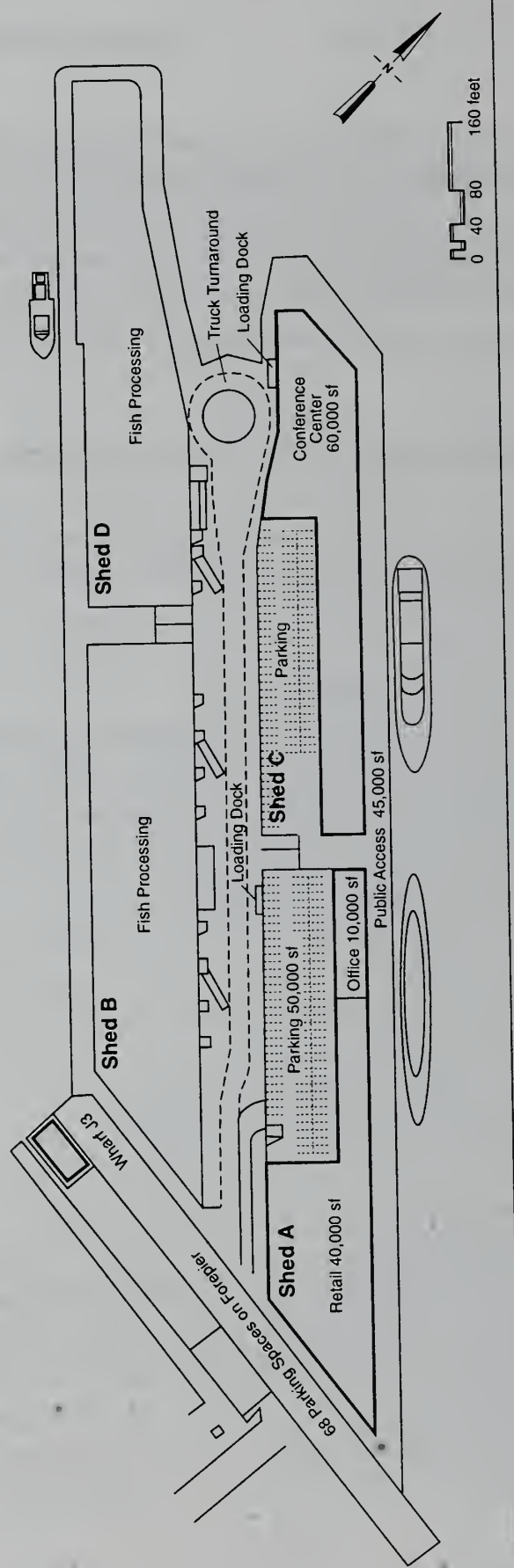


FIGURE NO. 20

ALTERNATIVE B – PIER 45 CONFERENCE CENTER FOCUS

SOURCE: PORT OF SAN FRANCISCO/THE DUFFEY COMPANY

Proposed Project of 36 vehicles during the weekend midday peak hour. During the weekday PM peak hour, the Conference Center Alternative would generate three fewer vehicles than the Proposed Project.

Traffic Operating Conditions: The number of project-generated vehicles was reviewed for the two intersections closest to Pier 45, Taylor and Jefferson Street and Jefferson/Powell/The Embarcadero, to determine the percentage of project vehicles compared to total traffic at the intersection. Under the Conference Center alternative, the project contribution to the total intersection volumes would be less than 10%, except at the intersection of Jefferson/Powell/The Embarcadero, where during the AM peak hour, project trips would account for 23% of total intersection volumes. (See Table 17)

The Conference Center alternative would operate at LOS conditions similar to the Proposed Project. All intersections would operate at LOS B or better.

Transit/Pedestrian Conditions:

The Conference Center alternative would, in general, result in larger number of transit riders than the Proposed Project. During the weekday PM peak hour and the weekend midday peak hour, the Conference Center alternative would generate 107 and 188 transit rider trips, respectively. These trips would be distributed between the existing transit lines, the cable cars and the F-Market line. This represents a decrease of three transit trips during the weekday PM peak hour, and an increase of 53 trips during the weekend midday peak hour. It is anticipated that these trips would be accommodated within the existing and planned transit lines which currently operate with available capacity for additional passengers.

Under the Conference Center alternative, the LOS for conditions for pedestrians at the crosswalks at Jefferson and Taylor Streets would be the same as identified for the Proposed Project. All pedestrian crosswalks would operate at LOS D or better, except for the east crosswalk which would operate at LOS E.

Table 17

Intersection Level of Service -Weekday Conditions
Alternatives to the Proposed Project

Intersection	Cumulative Conditions (Year 2010)											
	Existing (1995)				Proposed Project				Conference Center Alternative			
	AM		PM		AM		PM		AM		PM	
	Delay*	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Jefferson/Taylor	7.9	B	8.2	B	7.4	B	8.4	B	7.4	B	7.4	B
Jefferson/Powell/ The Embarcadero	12.0	B	12.3	B	11.3	B	11.6	B	11.4	B	11.1	B
Beach/Taylor	7.3	B	7.4	B	7.4	B	7.7	B	7.4	B	7.4	B
Beach/Hyde	5.9	B	8.0	B	5.9	B	8.3	B	5.9	B	5.9	B
Powell/Beach	2.8**	A	3.3	A	6.9	B	6.7	A	6.9	B	6.8	B

Intersection Level of Service - Weekend Midday Peak Hour Conditions
Alternatives to the Proposed Project

Intersection	Cumulative Conditions (Year 2010)											
	Existing (1995)				Proposed Project				Conference Center Alternative			
	AM		PM		AM		PM		AM		PM	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Jefferson/Taylor	10.2	B	9.7	B	10.1	B	11.5	B	10.1	B	11.5	B
Jefferson/Powell/The Embarcadero	14.2	B	13.1	B	13.1	B	13.2	B	13.1	B	13.2	B
Beach/Taylor	7.8	B	8.6	B	8.6	B	8.6	B	8.6	B	8.6	B
Beach/Hyde	8.2	B	8.5	B	8.5	B	8.5	B	8.5	B	8.5	B
Powell/Beach	7.4**	B	8.4	B	8.4	B	8.5	B	8.4	B	8.5	B

Note: LOS operating conditions for cumulative conditions are presented for the revised roadway configuration at the intersections of Jefferson/Taylor and Jefferson/Powell/The Embarcadero

* Delay calculated as seconds per vehicle

** Three-way STOP-controlled intersection under existing conditions only

Source: Korve Engineering, Inc.

Parking/Loading Conditions: The Conference Center alternative would result in a parking demand of 118 spaces (compared with the proposed parking supply of 200 spaces). Under this alternative the Planning Code requirement would be 260 spaces, and therefore there would be a code shortfall of 60 spaces. Section 161(f) would allow an exemption from parking requirements in the Waterfront Northern Special Use District No. 1. Loading activity associated with this alternative would result in a daily demand of 15 delivery/service trips per day, and a demand for one loading space during the peak and average hours (two loading spaces are proposed).

All other impacts would be the same as described for the proposed project because Alternative B would have the same harbor features as the proposed project.

ALTERNATIVE C – PIER 45 EDUCATIONAL CENTER FOCUS

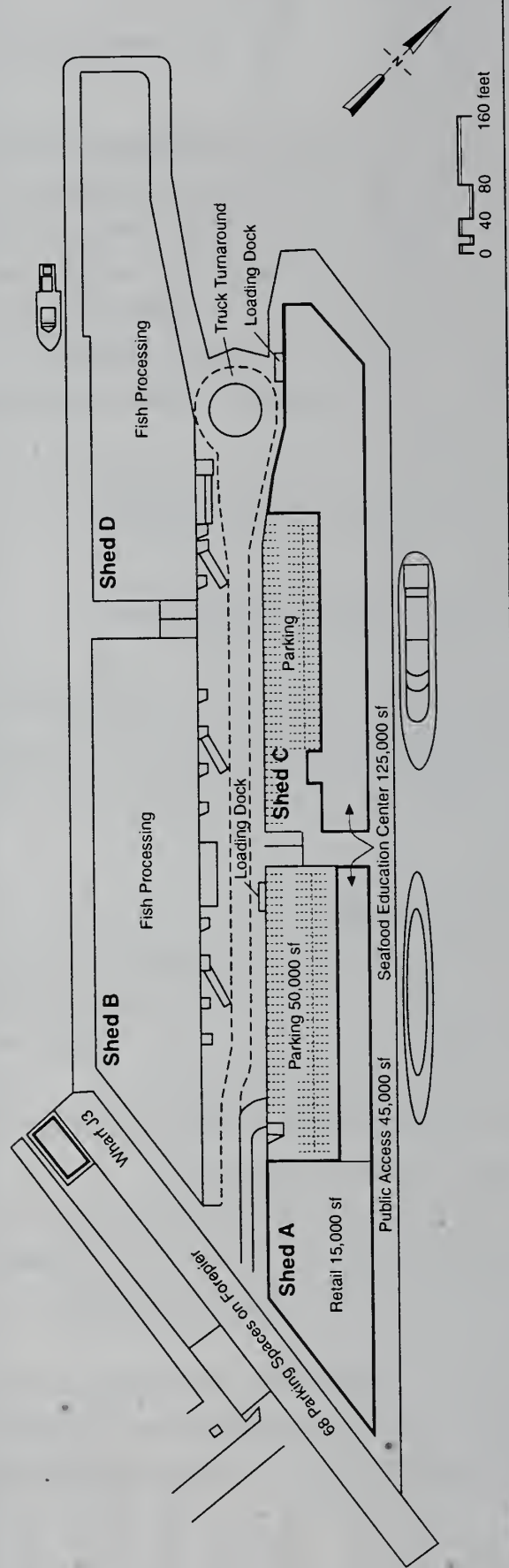
Similar to the Proposed Project use of Shed A and C, and to Alternative B above, the Pier 45 Educational Center Focus Alternative physical changes would be to the interior design and use of the sheds. The facilities for the Pier 45 Education Center Focus are shown in Figure 21 and briefly summarized below.

PIER 45 - 235,000 square feet of new uses

- Education Center - 125,000 sq. ft., a multipurpose facility to serve both the seafood industry and visitors, designed for public viewing and hands-on education to include bilingual fish processing training, seafood inspection, retail marketing, 'in-class workshops', seafood cooking and demonstrations.
- Conference Center - 0 sq. ft. (compared with 50,000 SF for proposed project)
- Parking - 50, 000 sq. ft. (same as proposed)
- Other Retail - 15,000 sq. ft. (compared with 40,000 SF for proposed project)
- Office Space - 0 sq. ft. (compared with 10,000 SF for proposed project)
- Outdoor Public Access- 45,000 sq. ft. (same as proposed)

Travel Demand: The Educational Center alternative, which includes predominantly education/visitor use would generate more vehicle-trips than the Proposed Project during the weekday PM and weekend midday peak hours. This alternative would generate only 13 vehicle

HYDE STREET HARBOR



ALTERNATIVE C -- PIER 45 EDUCATIONAL CENTER FOCUS

FIGURE NO. 21

SOURCE: PORT OF SAN FRANCISCO/THE DUFFEY COMPANY

trips during the weekday AM peak hour, but would generate 189 vehicle trips during the weekday PM and weekend midday peak hours. This represents a decrease from the Proposed Project of 45 vehicles during the weekday AM peak hour, but an increase of 108 vehicles during the weekday PM peak hour and an increase of 91 vehicles during the weekend midday peak hour.

Traffic Operating Conditions: Under the Educational Center alternative, the project contribution would be less than 10% at both intersections during the weekday AM and weekend midday peak hours, and approximately 15% during the weekday PM peak hour.

The Educational Center alternatives would operate at LOS conditions similar to the Proposed Project. All intersections would operate at LOS B or better. (See Table 17, page 183)

Transit/Pedestrian Conditions:

The Educational Center alternative would result in larger number of transit riders than the Proposed Project. During the weekday PM peak hour and the weekend midday peak hour, the Educational Center alternative would generate 281 transit trips, which would be distributed between the existing transit lines, the two cable cars and the F-Market streetcar line which are anticipated to have available capacity for additional passengers. This represents an increase over the proposed project of 171 trips during the weekday PM peak hour and 148 trips during the weekend midday peak hour.

As under the Conference Center alternative, the pedestrian conditions LOS streets for the weekday and weekend peak hours at the intersection of Jefferson and Taylor would be similar as identified for the Proposed Project. All crosswalks would operate at LOS D or better, except for the east crosswalk which would continue to operate at the present LOS E.

Parking/Loading Conditions: The Educational Center alternative would result in a parking demand of 257 spaces, (compared with 117 spaces needed for the proposed project and compared with 200 spaces proposed) a deficit of 57 spaces. However, the Planning Code requirement of 93 spaces would be met. The Educational Center Alternative would generate a

VII. ALTERNATIVES TO THE PROPOSED PROJECT
Alternative C

daily demand of 15 delivery/service trips per day, and a demand for one loading space during the peak and average hours (two loading spaces are proposed).

VIII. DRAFT EIR DISTRIBUTION LIST

FEDERAL AND STATE AGENCIES

Northwest Information Center
California Archaeological Inventory
Department of Anthropology
Sonoma State University
Rohnert Park, CA 94928
Attn: Leigh Jordan

California Department of
Transportation
Transportation Planning
P.O. Box 23660
Oakland, CA 94623-0660
Attn: Gary Adams

California Coastal Commission
631 Howard Street
San Francisco, CA 94105

S.F. Bay Conservation and
Development Commission
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Attn: Rob Lawrence, Dist. Engineer

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California Coastal Conservancy
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Attn: Mike Bell/Nancy Hornor

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Menlo Park, CA 94025

U.S. Environmental Protection Agency,
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U.S. NOAA
National Marine Fisheries Services
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1529 Shrader Street
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"BUTCHIE B"
60 Rollingwood Drive
San Rafael, Ca 94901

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Caito Fisheries, Inc.
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175 Yukon Street
San Francisco, CA 94114

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Congresswoman Pelosi's Office
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Fisherman's Wharf Merchant's Association
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San Francisco, CA 94103

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San Francisco, CA 94124

Mickey Gerouldi
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San Francisco, CA 94104
Attn: Donna Casey, Exec. Director

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S.F. Port Commission
Rm. 3100 - Ferry Building
San Francisco, CA 94111

Francis O'Neill
S.F. Port Commission
Rm. 3100 - Ferry Building
San Francisco, CA 94111

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San Francisco, CA 94111

Jon Twitchell Associates
4419 Moraga Ave.
Oakland, CA 94611

Stephen Weicker
899 Pine Street, #1610
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Council of Community Housing Organizations
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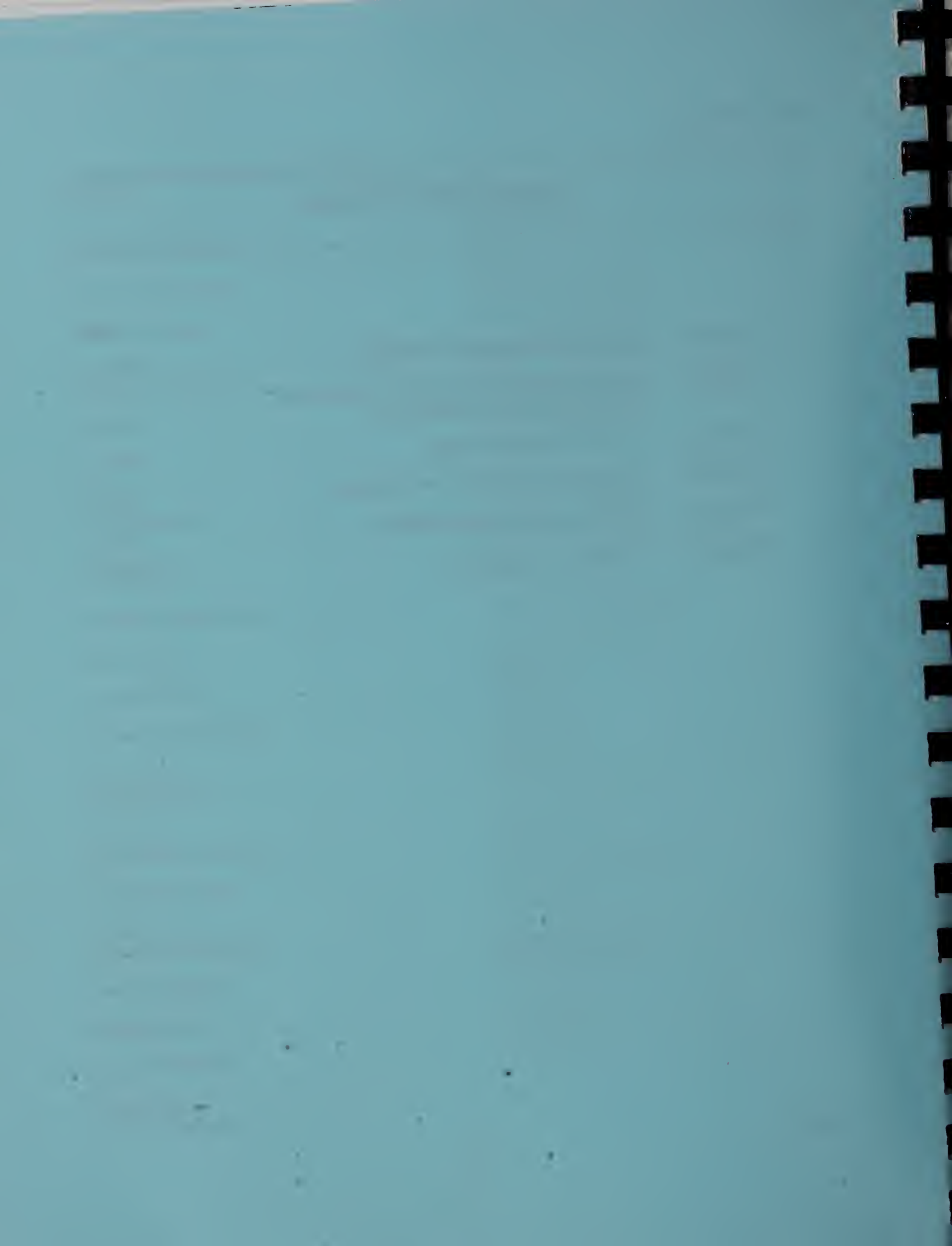
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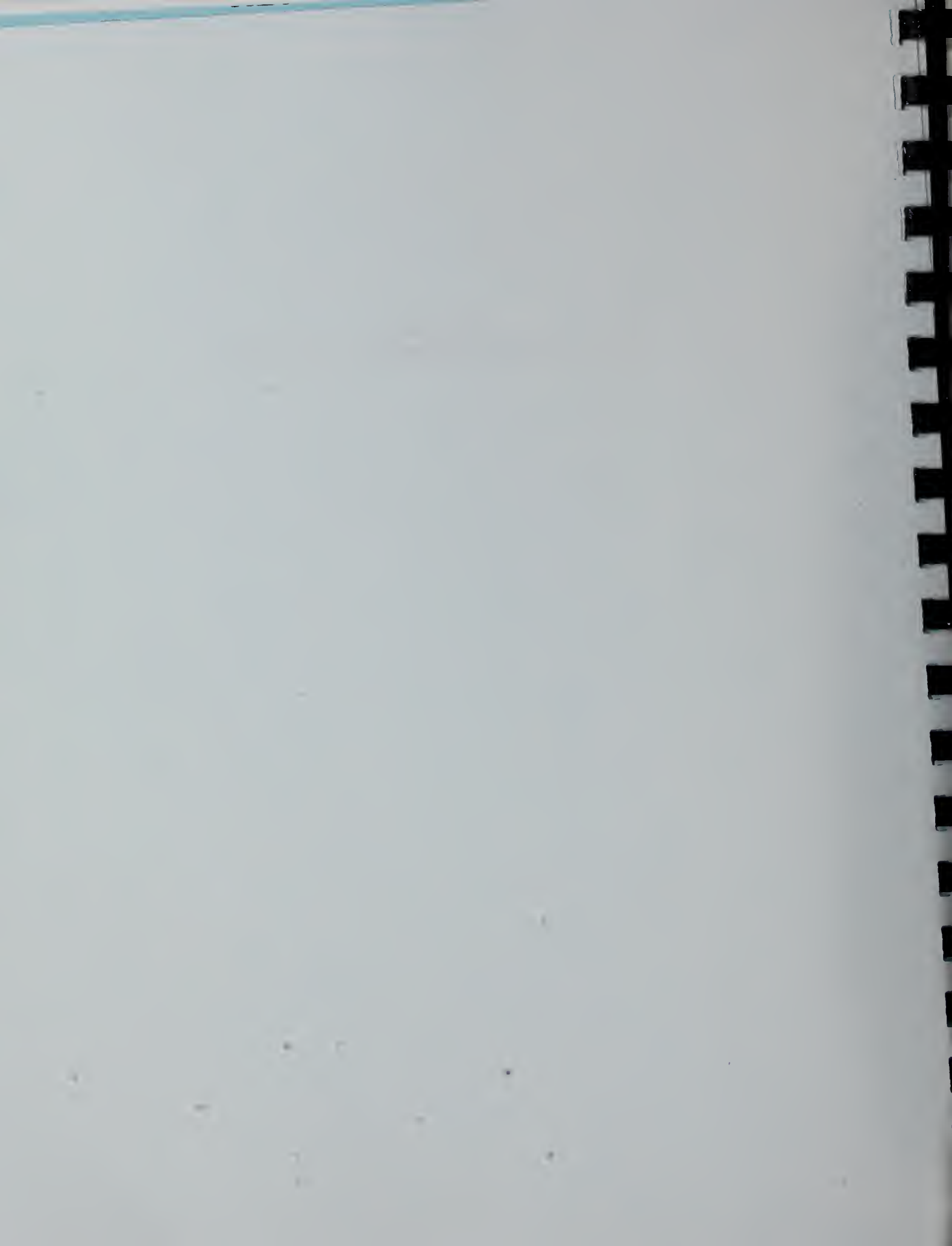
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APPENDIX A.
NOTICE OF EIR REQUIREMENT - INITIAL STUDY





**City and County of San Francisco
The Planning Department**

**1660 Mission Street
San Francisco, CA 94103-2414**

**INITIAL STUDY
HYDE STREET HARBOR BERTHS
AND PIER 45, SHEDS A AND C, PORTIONS OF B AND D**

TITLE: Hyde Street Harbor Berths, Harbormaster's Facilities, and Proposed New Uses for Pier 45, Sheds A and C

FILE NO: 93.574E **Street Address:** East Side of Hyde Street Pier and Pier 45 at the Foot of Taylor Street, San Francisco, California

ASSESSOR'S BLOCK AND LOT: Portions of Block 9900, Lots 2,5,6,7 **Date:** 5/10/94

PROJECT BACKGROUND:

The Port proposes to expand the number of available berths and improve its existing facilities for the commercial fishing industry. It would also add an applied research facility with a significant public education program. The proposed 86 new berths would be created on the reconstructed and expanded east side of the Hyde Street Pier; the Fisheries Institute, along with a variety of other uses to be described in this document, is proposed to be located on Pier 45, in all or portions of Sheds A and C. Figure 1, on the next page, is a recent aerial photograph of the project vicinity.

Pier 45, and the four sheds located on it, suffered considerable damage in the Loma Prieta Earthquake of 1989. The work of repairing the damage from that quake, which includes seismically reinforcing it and replacing all of the damaged utilities, has meant that all of those systems have had to be brought up to current codes. This work has been primarily funded by the Federal Emergency Management Agency (FEMA). The replacement and leasing of fish processing facilities in Shed B are anticipated to be completed and ready for occupancy in Fall 1994. It is anticipated that the work would be completed in Shed D by Summer 1995. The replacement of earthquake damaged facilities is a separate project from this proposal.

A breakwater, which shelters the entire harbor area from Pier 45 to Hyde Street, was constructed with US Government funding in the early '80's. The Hyde Street Pier was originally constructed in 1922 as a Ferry Pier. The condition of the Pier has been assessed many times over a 17 year period. These surveys document the progressive deterioration of the Pier, particularly in the shoreside area. This proposal would replace some of that portion of the pier and add new fill, for the Harbormaster's facility. Pier 45 was the principal location for fish processors prior to the 1989 earthquake.

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PLANS AND PROGRAMS
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IMPLEMENTATION/ZONING
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FAX: 558-6409

FAX: 558-6426



Figure 1: Aerial Photograph of Project Vicinity

OCTOBER 1988

PROJECT OVERVIEW:

The proposed project has three major components: new uses including a proposed Fisheries Institute and ancillary uses and services, which may include some retail, parking, office and public service space, proposed(at this time) to be located in Sheds A and C. These buildings are on the eastern side of Pier 45 at the foot of Taylor Street; establishment of a new 86-berth Hyde Street Harbor, located to the west of Pier 45, on the east side of the San Francisco Maritime National Historic Park (National Maritime Park). This is a new National Park and is not a part of the Golden Gate National Recreation Area (GGNRA); and harbor service facilities located partially on new fill that would include a new Harbormaster's building, fueling station, work dock, and a vessel pump-out station. The Harbor would be a new marina designed for the fishing industry. On the landside of the Harbor, and adjacent to the new Harbormaster's building, there would be provided a hoist and small ship repair working area that could be a facility shared with the Maritime Park. The Fisheries Center and the other facilities, such as the Underwater World holding tanks, could provide research, education, and training facilities for fishermen and women, processors, distributors, and the public.

EXISTING USES ON OR ADJACENT TO THE PROJECT SITE:

A major portion of the Hyde Street Pier is leased by the Port to the National Park Service (NPS) for the National Maritime Park. Seven historic ships that belong to the Park Service are moored off of both sides of the Hyde Street Pier. On the eastern, landward side, not part of the NPS lease, severe damage was done by the Loma Prieta earthquake. The area most severely damaged by the earthquake has been closed to the public since 1989. /1/ Restoration and additional fill of part of that area is included in this proposal.

While there are strictly only 99 existing berths, "double stacking" of boats allows about 120 berths for fishing boats at Fisherman's Wharf; these are located in both the Inner and Outer Lagoons. All berths are leased and used year-round. About 50 additional fishing vessels regularly use the harbor, and raft up to Pier 45, Wharf J7 nearby, or moor in the harbor wherever space is available. Throughout the year there are also varying numbers of transient vessels using the harbor. The herring season, which runs from November through March, is the busiest time of year for both fishermen and fish handlers at Fisherman's Wharf. There are about 500 boats in the San Francisco Bay herring fleet and Fisherman's Wharf is the most active harbor during the herring season./2/ Figure 2 shows the area as it is today with the footprint of the existing structures including the finger piers.

Prior to the Loma Prieta Earthquake of 1989, the primary use of the adjacent Pier 45 was to provide space for fish handlers and parking. There are four sheds on the Pier which total approximately 279,000 square feet. Sheds B and D (about 130,000 square feet) located on the west side of the Pier were used for fish handling and circulation (about 112,000 square feet), and storage of gear (about 18,000 square feet). Sheds A and C (149,000 square feet) located on the east side were partially vacant and had facilities which included support space for the Red and White fleet and the submarine Pompanito which was moored along the eastern edge of the Pier, office space for area merchants, parking, and a space where special public events, such as Festa Italiana, were held. The space between the sheds, the "valley", was used for truck access for tenants, and public and tour bus parking. /3/ Seismic repair and upgrade of Pier 45 is currently underway. It is anticipated by the Port that all of the above uses will return to Sheds B and D when the earthquake work is completed. In fact, there are some fish processors operating out of Pier 45 at this time.

Fish Alley and Wharf J7, which are located north of Jefferson Street, on the waterside and between Pier 45 and the Hyde Street Pier, would continue to house their present uses. At this time, Fish Alley contains fish landing and handling facilities, storage areas for various types of gear, and two fuel storage tanks. Only one of the tanks is in service. It is the present source for the existing fuel dock. There are also retail and art gallery uses, limited parking, and restaurants.

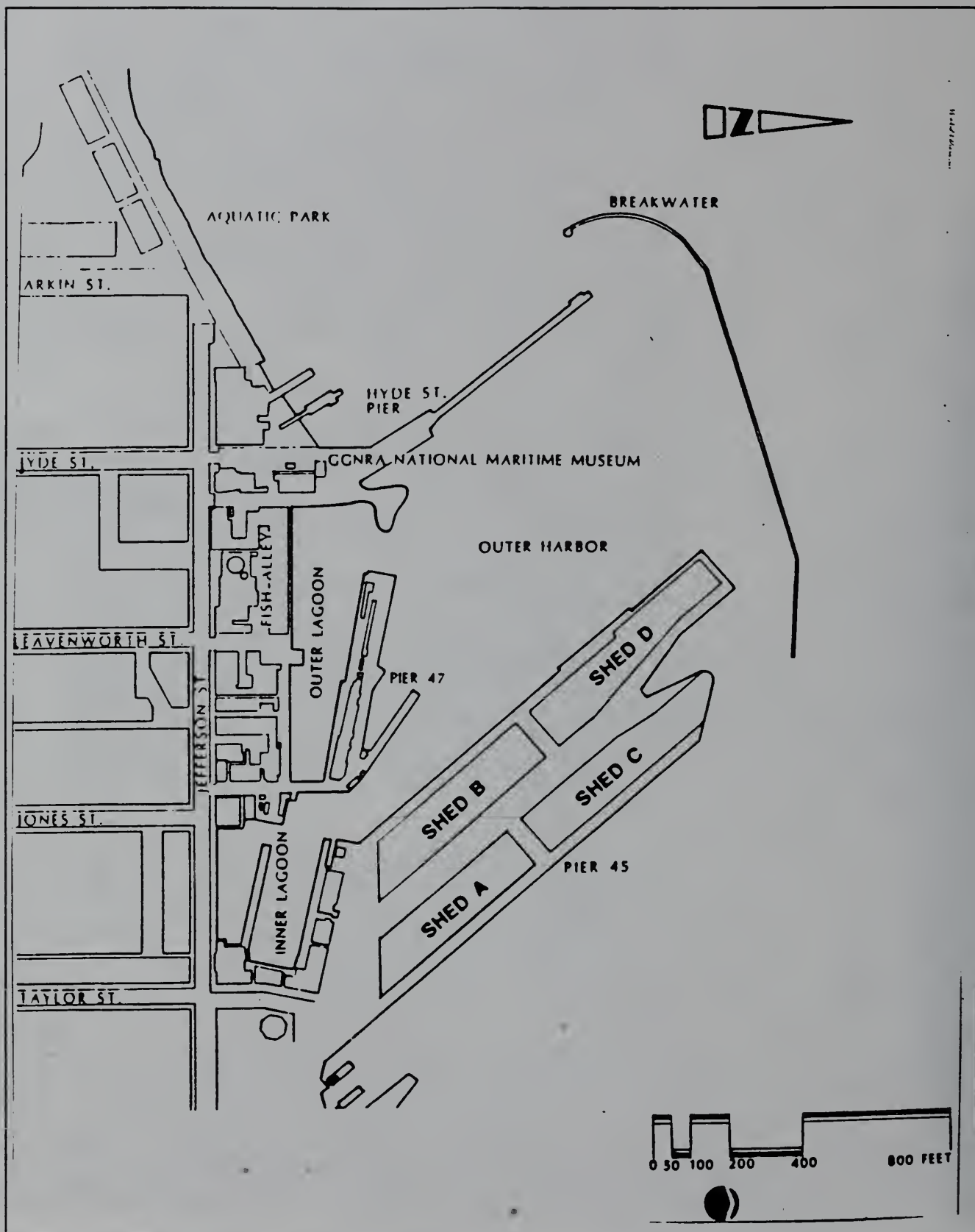


Figure 2: Existing Conditions

I. PROJECT DESCRIPTION:

The following description of the components of the proposed Project is subject to revision as the plans are finalized. A more detailed and precise description of the various project elements, and alternatives to them, will be provided in the Environmental Impact Report (EIR). See Figures 3 for proposed project drawing.

Pier 45 - Sheds A and C, Portions of B and D

- o The purposes of the Center, as defined at this time, would be to provide varying amounts of space for the following for the following uses: applied research; a small conference center; education and training for members of the fishing industry including the processors and distributors; backup facilities for Underwater World; office; retail; parking. The Fisheries Center would also serve to educate the public about the fishing industry, allowing observation of a working fish harbor and pier, and would provide education and interpretation of the surrounding Bay and ocean environment. There are three design alternatives being examined by consultants to the Port for the proposed fisheries and environmental center that is proposed on Pier 45. These will be examined in the EIR.
- o The mixed use facility, containing the elements listed above, could occupy all, or portions of Sheds A and C. These buildings, with mezzanines, have available approximately 185,000 square feet. The size of individual operations would range from an estimated 5,000 square feet to 50,000 square feet. For example, in one alternative being examined by the consultants, there would be: a Visitor Center of 40,000 square feet; an adjunct tank/research facility to Underwater World Aquarium of 30,000 square feet; a Conference Center of 18,000 square feet; office of 15,000 square feet; retail of 22,000 square feet; and parking occupying 50,000 square feet. At this time, for some of the uses described above, an additional 30,000 square feet divided between Sheds B and D is also being discussed.

Hyde Street Harbor Berthing System (see Figure 4, page 8):

Reconstruction of the east side of the Hyde Street Pier would include the replacement of the rock fill and timber pier structure (about 0.16 acre) with 0.07 acre of solid fill and 0.63 acre of concrete pile supported pier. There would be 0.54 acre of net new Bay fill as a result of this reconstruction. The floating docks are not included in these figures. Figures 4 shows the proposed Harbor facilities described below.

- o The new berthing system would consist of 86 floating berths supported by a concrete guide pile berthing system, with 120 new 24 inch rectangular concrete piles. The floating docks are considered bay fill by the Bay Conservation and Development Commission (BCDC) regulations. The surface area covered by the walkways to the berths would be approximately 27,000 square feet, which includes the foam pontoons.
- o Berths would be provided by floats with encased foam pontoons that would ride slightly below the surface of the water.
- o Of the 86 berths, ten could accommodate oversized vessels in "stern-to" berths (berths without separating floats to which vessels tie at their sterns) and an additional 20 oversized vessels could be accommodated along 1320 linear feet of dock.
- o A single security gate at the brow (shore end of the pier) would limit access to berth holders and harbor personnel.
- o There would not be any berthing on the west side of the float closest to the Hyde Street Pier and Aquatic Park. The westernmost float would be fitted with a flexible "skirt" which would eliminate gaps between floats and provide a measure of water quality protection.

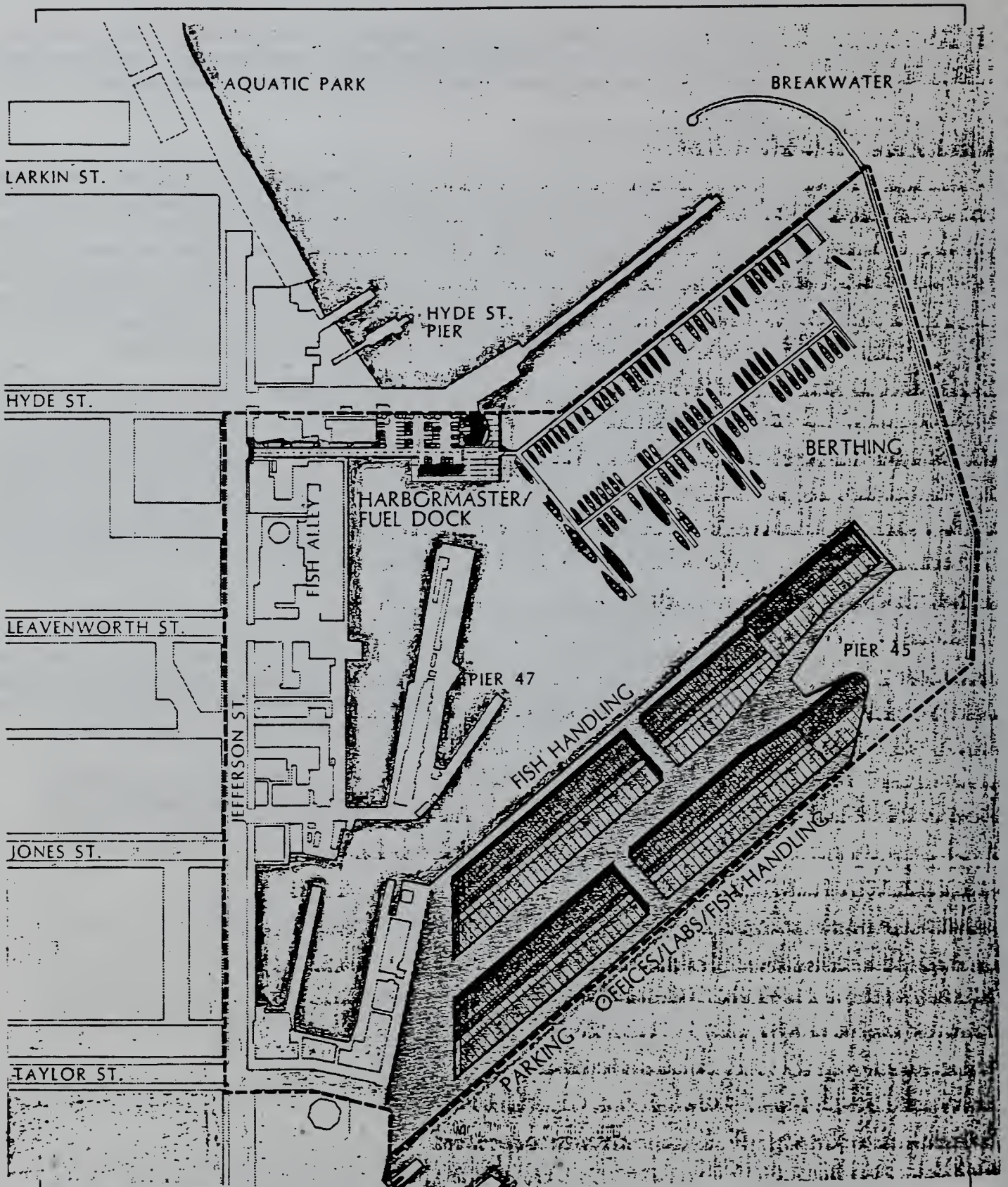


Figure 3: Proposed Hyde Street Harbor and Pier 45

- o The berthing system would include lighting, electrical power, water and fire protection systems, deck boxes and carts for each berth. There would be a 20 gallons per minute sewage pumpout unit for use by the boats. This new equipment would be located on the pier in the vicinity of the fuel dock and work hoist.
- o First priority for use of the berths would be given to commercial fishing vessels in accordance with Port of San Francisco Tariff No. 3-C, Section 8 - Fishing Industry.

Harbor Services Proposed for the Hyde Street Pier Expansion (see Figure 5 page 10):

- o A work dock would be developed to provide space and a hoist for transferring gear and equipment, and a place to drop off gear from vessels. It would occupy the new fill that would be located on the northerly portion of the pier beyond the existing fuel dock.
- o The existing fuel station building of 420 square feet, now located on a pile supported pier, would be replaced with a one-story harbor services/fuel dock building of 1500 square feet located on partial new fill. Included in this facility would be:
 - 1/ 100 square foot fuel dock and staff restroom
 - 2/ 900 square foot convenience store
 - 3/ harbor maintenance shop
 - 4/ trash storage compound consisting of a covered and enclosed area of 100 square feet on the north side of the building which would contain two dumpsters for use by fishermen.
- o A new fuel station would include a fuel dock with three dispensers equipped with automatic shut off features; a leak detection system; remote operated shut off switch and pressure sensitive automatic shut-off valves.
- o The new fuel station would have impermeable surfaces with all runoff collected in gutters located along the pier edge. Runoff would be transported in pipelines to a pretreatment facility on site before flowing into the City sewage system. The fuel dock area would be provided with lighting and spill containment equipment.
- o A new/replacement fuel delivery pipeline from the seawall to the fuel dock would be installed.
- o Oily waste disposal facilities would be provided in a clearly marked location in the working area.
- o A vessel sewage pump-out station would be installed with a 20 gpm pump-out capability directly connected to the City's sanitary sewer system.
- o In areas to be excavated for utility lines, contaminated soil would be treated by bioremediation on a nearby site or, depending on the level of contamination, removed from the site and disposed of at an approved location..

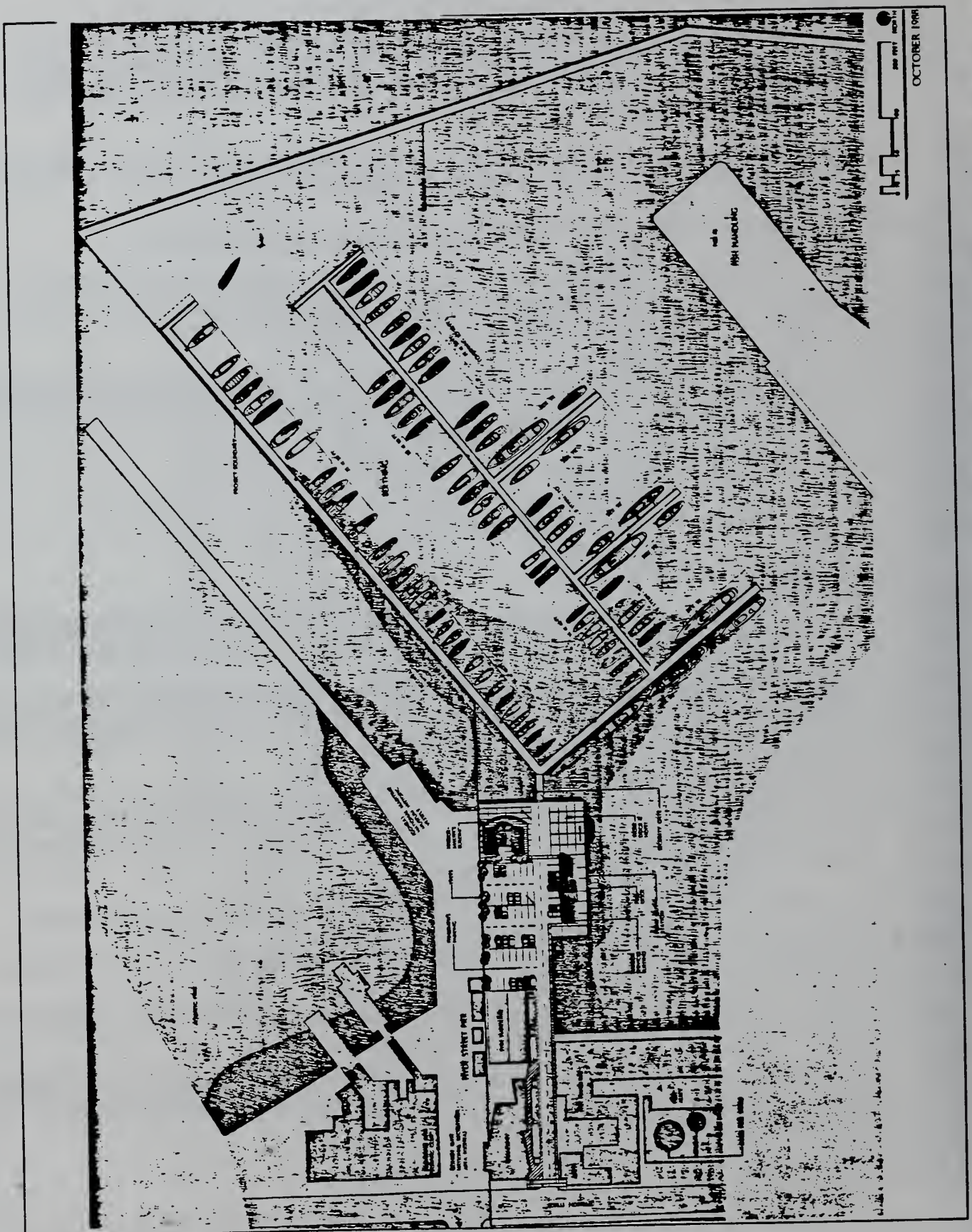


Figure 4: Hyde Street Harbor Proposed New Berths

Harbor Master Building:

- o The proposed project would also include a two-story 4100 square foot Harbormaster's Building described below. It would be located on the new fill at the end of the Hyde Street Pier on the eastside:
 - 1/ An office for the Harbormaster, with space for California State Department of Fish and Game and U.S. Coast Guard or other governmental agencies.
 - 2/ Showers, toilets, and laundry for use of the fishermen.
 - 3/ Public toilets
 - 4/ Second floor observation deck accessible to public.
- o Parking for 52 vehicles is proposed over existing land and/or over new fill or deck. 42 spaces would be over existing land for short-term use by fisherman, 10 would be over new fill or deck at the Harbor Services and Harbormaster's buildings for staff and visitors.
- o All storm runoff and sanitary sewer sewage would be captured and disposed of through the City sewer system.
- o Public access would be provided on the new pier (excluding the fuel dock area proposed to be located behind the Harbor Services Building). The Harbormaster's Building would have a second level viewing deck available for the public. The new berths would only be accessible to berth users.

Construction Activities:

There would be a total of approximately 0.54 acres of net new land fill that would be placed and compacted prior to the beginning of construction activities. The fill that would be required for the landside construction activities would be staged from a lease area on the east side of the entrance to the Hyde Street Pier. Placement of this fill, as well as the berthing system water coverage, would require a permit from the Bay Conservation and Development Commission (BCDC).

Dredging and pile driving would be necessary to create the berths. This requires approval of the United States Army Corps of Engineers and the Regional Water Quality Board. It is estimated at this time that approximately 20,000 cubic yards would be dredged from the harbor.

II OVERVIEW OF THE AREA SURROUNDING THE PROJECT:

This proposal would be located at Fisherman's Wharf, an area bounded generally by Pier 35 on the east; Aquatic Park on the west; The Pier Head Line in San Francisco Bay on the north; and North Point, Bay and Francisco Streets on the south. There are approximately 374 acres of land and water included in this general area along the northern waterfront of San Francisco; 175 acres are on land, which includes the piers.

The Project Area for the proposed Hyde Street Harbor and Pier 45 Improvements to Sheds A and C, is located on property controlled by the Port Commission. It is adjacent to property leased from the Port by the the the National Park Service and other land controlled by the City and County of San Francisco. Other agencies, including the California State Lands Commission, the Bay Conservation and Development Commission (BCDC), the Regional Water Quality Control Board, the United States Army Corps of Engineers (COE), the United States Coast Guard (Coast Guard), have planning authority or regulatory powers in

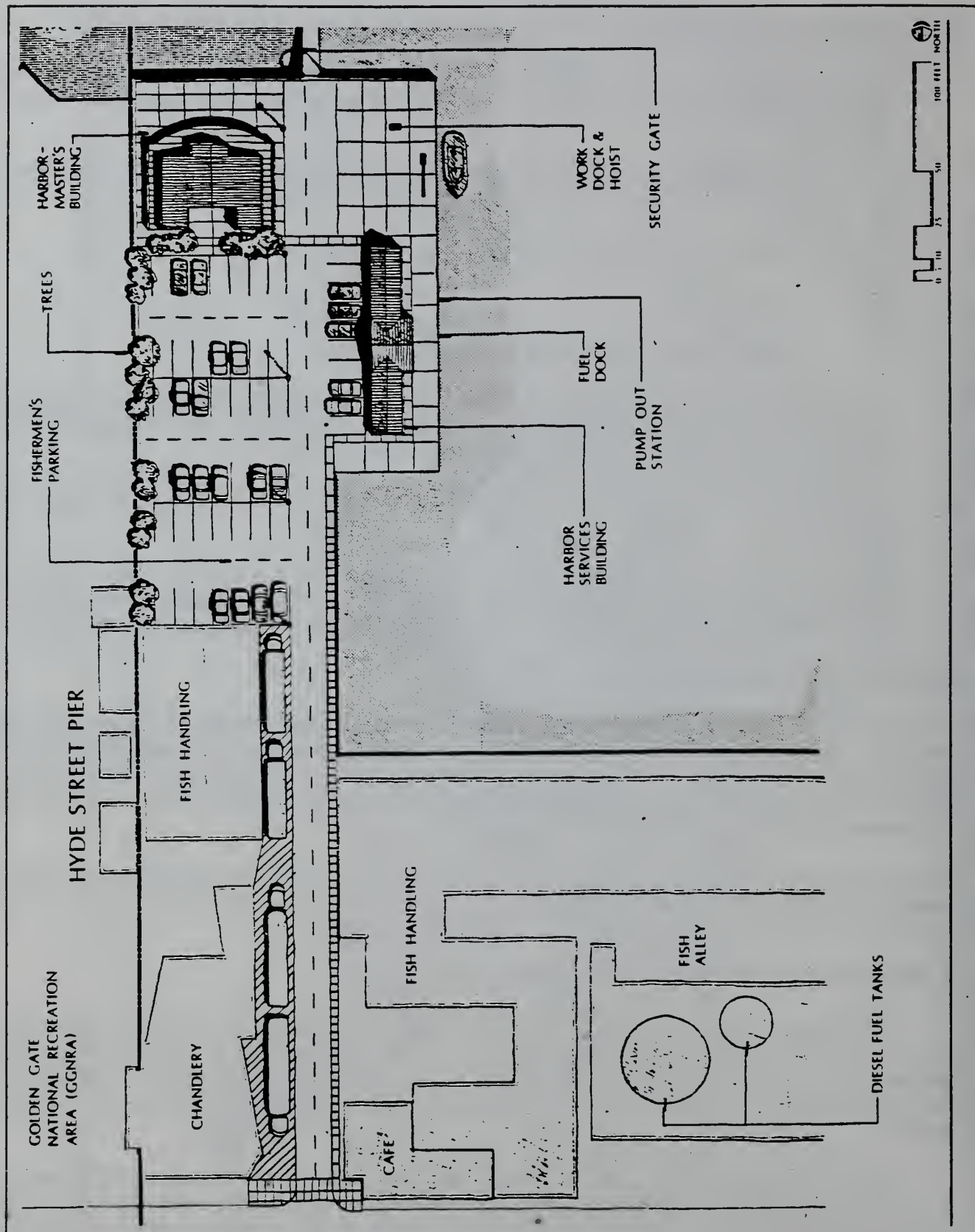


Figure 5: Harbor Service Facilities

portions of the Project Area. A complete analysis of agencies that may have jurisdictional or regulatory concerns with the proposed project will be included in the EIR.

Principal existing land uses on the Jefferson Street properties immediately adjacent to or within the Project Area are retail, restaurant and entertainment. Within the Project Area as defined in Figure 2, uses include fishing and maritime/industrial, office, recreation and open space, public/quasi-public and parking.

In the past, Fisherman's Wharf was characterized by a combination of maritime and fishing-related activities and other distribution, transportation, and industrial uses. Although these uses have not been entirely displaced in the Wharf area, the mix of development since the mid-1960s has become more tourist serving, with the exception of the proposed project location and its immediate vicinity.

In the area under City Planning Commission jurisdiction which surrounds the Project site, hotels, specialty retail/restaurant complexes, food service, and entertainment establishments have become principal land uses. Commercial developments include seven hotels, North Point Shopping Center, Cost Plus Imports retail store, and Ghirardelli Square, Cannery and Anchorage specialty retail/restaurant complexes. Residential and public infrastructure uses include the 514-unit North Point Apartments, the 229-unit North Beach Place public housing project, the San Francisco Municipal Railway (MUNI) Kirkland Bus Yard, and the North Point Water Pollution Control Plant /5/

At what is known as Fisherman's Wharf, commercial maritime and fishing activities remain principal uses in areas under Port jurisdiction. These areas include piers, shoreline, waterfront extending bayward to the U.S. Pier Head Line, the underground seawall along Embarcadero Roadway, and seawall lots adjoining the Embarcadero.

Within one mile of the proposed additional fishing fleet berths, Pier 39 maintains 350 berths for recreational boats. It was developed in the late 70's. There are two pump out stations, and a boat that services other boats within the harbor; this number of pump out facilities allows 10 liveaboards to berth there. /6/

Tourist-serving retail and restaurant uses under Port jurisdiction are concentrated in three areas: the Pier 39 specialty retail/restaurant complex, the north end of Taylor Street, and along the north side of Jefferson Street west of Mason Street, adjacent to the proposed project. Other prominent developments on nearby Port properties include the five-level Pier 39 parking garage, surface parking on the Triangle and on Piers 43 and 43-1/2, tourist-serving ferry facilities along the waterfront from Pier 41 to Pier 45, and fish handling/maritime facilities along Fish Alley and within Pier 45. Fish Alley extends along Seawall Lots 302 and 303 between Jones and Hyde Street.

Principal uses adjacent to the proposal on the west side in areas under City and Maritime National Park Service jurisdiction include Aquatic Park, the Municipal Pier, the San Francisco Senior Center and the Maritime Museum. The Dolphin Club and the South End Rowing Club, occupy land zoned P (Public Use), and Aquatic Park, are under City jurisdiction. The adjacent Pier 43, on the east side of the proposed new improvements to Pier 45, is the Red and White Fleet Tourist Boat berth.

III. SUMMARY OF POTENTIAL ENVIRONMENTAL EFFECTS

The Fishermen's Wharf Seafood Center and Hyde Street Harbor is examined in this Initial Study to identify potential effects on the environment. The Initial Study identifies some project-specific impacts that are potentially significant. In addition, there are some anticipated possible cumulative impacts. Thus, an EIR

will be required. The purpose of the EIR will be to analyze areas of potential impact in greater detail and recommend appropriate mitigation measures. The following summary first lists areas of impact that would be analyzed in an EIR followed by those topics to be discussed in the attached checklist, and thus not necessary to include in the EIR:

A. Effects Found To Be Potentially Significant:

- o Transportation issues related to the ability of existing infrastructure to serve project-generated traffic, including congestion and traffic safety.
- o Impact on public utilities and services, primarily the sewer system, and the ability of existing local services and utility providers to meet the needs of the proposed project.
- o Air quality issues related to objectionable odors and may include traffic and boat emissions.
- o Biology issues, including whether the project may affect sensitive habitats that support rare or endangered species or species of special concern.
- o Water quality and hydrology issues, including but not limited to possible sources of water pollution, how the project may affect the use of the water for recreational activities, and possible impacts of the proposal on surface as well as deeper waters of the Bay, drainage, and ground water.
- o Public safety, including the potential for the proposed project to expose the public to hazardous materials, and the adequacy of emergency response services.
- o Cumulative impacts of the proposed project combined with other projects planned for the area, primarily transportation issues.

B. Effects Found Not To Be Significant:

The following areas have been determined not to be significantly affected by the proposed project, or any effects would be mitigated to a less-than-significant level through measures proposed by the project sponsor. These areas of study are discussed in greater detail in the Environmental Evaluation Checklist and Discussion, Section IV, and require no further analysis in the EIR:

Land Use, Item 1(a,b): As a minimal expansion on the new fill area and modification of space within existing buildings (Sheds A and C), the project could not disrupt or divide the physical arrangement of an established community. Proposed uses are expansions of either existing water-oriented uses, or similar uses that exist close by, and would not change the character of the area. The portions of the project that would require bay fill will be extensively discussed in the EIR to the extent that they may affect biology, water quality, and relevant topics other than land use. Existing land uses on the Project site and in the surrounding area will be described in the EIR to help orient the reader.

Visual Quality, Item 2(a,b,c): There will be little or no change in the visual effect of the proposal in that any additional structures would be small scale (less than 40 feet in height).

View access to both the Bay and the industrial-fishing activities at Pier 45 would be improved. There would be a new observation deck on the second level of the harbor master's building, and there would be more linear feet of pedestrian access around the perimeter of the new fill than presently exists.

Population, Item 3(a,b,c): The project would not generate a substantial amount of new employment or create a substantial demand for new housing. The project would not displace any existing residences or businesses. The new berths would accommodate ships that were temporarily anchored in the harbor vicinity but without an assigned berth. Some of the ships may have temporary live-aboard facilities. Fishing boats permanently berthed in the existing harbor at Fisherman's Wharf would be owned and crewed by persons who already have housing since the existing facilities do not include the pump out station required for a harbor to legally accommodate liveaboards.

Noise, Item 5(a,b,c): A noise report on a previous project has been prepared which concluded that the noise from the increase in activities from that proposal could barely be perceived.

Air Quality/Climate, Item 6(a,b,d): The project would not alter wind, moisture or temperature, add shadows substantially affecting public areas, or otherwise have the capability to change the climate in the community or region.

Utilities/Public Services, Item 7(c): The project would not substantially increase demand for schools, recreation, or other similar public facilities.

Biology, Item 8(c): This is a proposed Bay project; no trees are on the site.

Geology/Topography, Item 9(a,b): New fill for the Harbormaster's facilities and proposed new structures would be engineered to withstand seismic events.

Energy/Natural Resources, Item 11(a,b): The utilities that would be necessary to supply to the boats when they were berthed would be minimal. Energy, water and fuel use would be minimal due to the relatively small size of the project.

Cultural, Item 13(a,b,c): There would be no disruption of an archaeological site or property of historic significance. The proposed project could be viewed as enhancing the available recreational and educational resources and opportunities available to the public and would not conflict with established recreational, educational, religious, or scientific uses of the area.

IV. ENVIRONMENTAL EVALUATION CHECKLIST

A. COMPATIBILITY WITH EXISTING ZONING AND PLANS

	<u>N/A</u>	<u>Discussed</u>
1. Discuss any variances, special authorizations, changes proposed to the City Planning Code or Zoning Map, if applicable.	<u> </u>	<u> X </u>
2.* Discuss any conflicts with any other adopted environmental plans & goals of the City or Region, if applicable.	<u> </u>	<u> X </u>

The City Planning Code, which incorporates by reference the City's Zoning Maps, governs permitted uses, densities, and the configuration of buildings within San Francisco. Permits to construct new buildings (or to alter or demolish existing ones) may not be issued unless either the proposed project conforms to the Code, or an exception is granted pursuant to provisions of the Code. On Port property, building permits are issued by the Port. Other entitlements, such as conditional use authorizations when necessary, are the province of the City Planning Department.

Located in the Fisherman's Wharf area, the site is bounded by San Francisco Bay to the north, the San Francisco Maritime Park to the west, Jefferson Street to the south, and Taylor Street to the east. It is in a C-2 (Community Business) use district, and a 40-X height and bulk district, and in the Northern Waterfront Special Use District No. 1, in which non-maritime uses require Conditional Use Authorization and maritime-related uses are permitted. The site contains uses associated with the fishing industry, and restaurants and shops serving the tourist industry and San Francisco residents. The proposed project would require a conditional use authorization if non-maritime related uses are contained within the proposal. There are minimal conflicts with the existing zoning or land use designation for the property. Further discussion in the EIR will be provided for this topic.

Compatibility with existing plans is an issue that will be discussed in the EIR. There are several Plans that have policies that may conflict regarding treatment of waterfront lands and the Bay waters, and there are also multi-jurisdictional considerations. The site is in an area under the jurisdiction of the Army Corps of Engineers, the State Lands Commission, the Bay Conservation and Development Commission, the City Planning Commission, and the San Francisco Port Commission, each of which would need to approve those aspects of the proposal within their specific jurisdiction. In addition, Proposition H, a measure passed by the voters in 1990 mandating that a plan for the waterfront be developed and that uses be restricted to water oriented uses, applies to the site.

The Northeastern Waterfront Plan, an Element of the San Francisco Master Plan, addresses land use at the project site. Objective 11 is to "maintain and enhance the maritime character of the Fishermans's Wharf area and enhance the area as a center for the commercial fishing industry.' Policy 1 is to "encourage the retention and expansion of the commercial fishing and fish handling industry and businesses which provide services to the fishing fleet through construction of a new breakwater in the general area of the Hyde Street pier." The Bay Conservation and Development Commission, the State Lands Commission, the directives of Proposition H passed by the voters of San Francisco, and the Port Commission, prohibit or discourage the use of Pier 45 for anything other than maritime or maritime related uses. The EIR will provide further discussion of jurisdictional and other agency related issues.

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

B. ENVIRONMENTAL EFFECTS

	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
1. <u>Land Use</u> - Could the project:			
a.* Disrupt or divide the physical arrangement of an established community?	<u> </u>	<u> X </u>	<u> X </u>
b. Have any substantial impact upon the existing character of the vicinity?	<u> </u>	<u> X </u>	<u> X </u>

A breakwater was constructed in 1985 by the COE to provide a sheltered harbor area for the fishing fleet. It is located within the U.S. Pier Head Line in the water area between the Hyde Street Pier and Pier 45; it was assumed that more berths would be added. The project under evaluation would add those additional berths. The project would expand and continue uses that have existed in the area for decades; thus it would not disrupt or divide the physical arrangement of an established community. The new Harbormaster's Building and facilities would be of the same scale as the nearby buildings and designed to be visually compatible with those structures. No additional existing land area (on the landward side) would be required. The amount of bay fill placed between the shoreline and the Hyde Street Pier for the Harbormaster's facilities, a total of 0.54 acres or 23,522 square feet of net new fill would not divide an existing community.

The total volume of fish that would arrive and could be handled in Wharf facilities would be greater than at present. There would be the possibility of more ships (about 86) bringing in to the harbor to be processed fish that are "landed" or caught. Fish "handled" at the harbor include, in addition to the fish "landed" and arriving by boat, those which are brought to the harbor by trucks. Large quantities of fish now change hands between fish brokers and distributors out of trucks in the early morning hours on Jefferson Street, or existing packing/processing houses nearby, such as those located in Fish Alley or on Pier 45. Large shipments may arrive by boat or truck from other harbors to be broken down into smaller packages in Fisherman's Wharf facilities. A fish is landed only once; it may be handled many times. The potential has always existed for large additional quantities of fish to be handled at the Wharf that are not caught there. Thus, present fishing uses would not change substantially but would intensify.

The volumes of fish landed at the Port of San Francisco are monitored and reported by the Department of Fish and Game. The current situation will be discussed in the EIR. The volumes of fish handled "unofficially" on Jefferson Street out of trucks are not currently monitored. When the current work that is underway on Pier 45 (FEMA Earthquake Repair) is completed, the improvements to the valley area between the sheds on Pier 45 would allow the Port to move into this area the trucks that are now conducting the trading on Jefferson Street.

There are some "new" uses proposed for Sheds A and C. In actuality, the uses, such as retail and office would be new to the site but not the area. The setting in the EIR will include a discussion of this for purposes of orienting the reader.

2. <u>Visual Quality</u> - Could the project:	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
a.* Have a substantial, demonstrable negative aesthetic effect?	<u> </u>	<u> X </u>	<u> X </u>
b. Substantially degrade or obstruct any scenic view or vista now observed from public areas?	<u> </u>	<u> X </u>	<u> X </u>
c. Generate obtrusive light or glare substantially impacting other properties?	<u> </u>	<u> X </u>	<u> X </u>

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

The site for the proposed new berths is open water at present. There are a number of industrial and maritime structures on the landside. The buildings on Fish Alley, while receiving some renovation, would remain substantially the same. New buildings would replace the smaller buildings on the Port's portion of the Hyde Street Pier (there would be no change to the GGNRA Maritime Park facility). The tallest building, the proposed new Harbormaster's building, would be two stories and about 30 feet tall. It would be taller than the existing structures on the GGNRA portion of the Hyde Street Pier; those structures range from ** feet to **. The new building would be visible from vantage points to the south on Russian Hill and from the Bay. The proposed Harbor Services Building would be one story tall and would be less visible from outside of the project area. The two proposed buildings have been sited to preserve the views of the Bay and the Historic Ships from Hyde Street. No scenic views or vistas now observed from public areas would be substantially degraded by these proposed buildings.

The proposed berthing system, and boats using these berths, would be visible from vantage points on the waterfront from Aquatic Park to Pier 45. Views of the Bay would continue to be available between the boats. The addition of boats to currently available Bay views would not detract from these maritime views. The project would not degrade the character of this space or result in a significant negative visual impact on the area. It will not be required to discuss the topic of visual quality further in the EIR.

The site contains a number of industrial and maritime structures. New public access and viewing areas would be incorporated into the new uses on Pier 45 in Sheds A and C as well as in the Harbormaster's building on the Hyde Street Pier. The four sheds on Pier 45 would remain. They received some renovation with the earthquake upgrading, but their size and shape would remain substantially the same. It will not be necessary to discuss the topic of visual quality further in the EIR.

3. Population - Could the project:

	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
a.* Induce substantial growth or concentration of population?	___	<u>X</u>	<u>X</u>
b.* Displace a large number of people (involving either housing or employment)?	___	<u>X</u>	<u>X</u>
c. Create a substantial demand for additional housing in San Francisco, or substantially reduce the housing supply?	___	<u>X</u>	<u>X</u>

The existing daily population near the project site includes fishing boat owners and crews, employees, customers, and other visitors (which includes tourists) to the existing harbor, boats, public parks and recreation areas, parking, restaurants, galleries, offices, and other retail spaces. Following project construction, the daily population of the site would include the same mix with the addition of more users and visitors to the new uses on Pier 45 and to the harbor facilities and new berths that are proposed. Overall, the proposed project might increase the daily population on the site. Any potential increase in visitor population might be noticeable to immediately adjacent neighbors, but would not substantially increase the existing area-wide residential population.

The proposed project would not displace any existing housing or commercial enterprises and therefore would not displace residents or employees. There may be a small number of new long-term jobs created as a result of the project operation, as well as some number of short-term construction-related jobs. These prospective employees would likely consist of Bay Area residents from various communities and some persons relocating to the area. The relatively small number of future employees seeking housing would likely locate in a dispersed area, and could be accommodated without substantially affecting the stock of available housing in Bay Area communities. The ships utilizing the new berths would be expected to have crews that either already live in the area or live elsewhere and would seek temporary accommodations while their boat

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

is in this harbor. The EIR will not provide further discussion of population, housing or employment issues related to the proposed project.

4. Transportation/Circulation - Could the project:

	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
a.* Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system?	<u>X</u>	<u> </u>	<u>X</u>
b. Interfere with existing transportation systems, causing substantial alterations to circulation patterns or major traffic hazards?	<u> </u>	<u>X</u>	<u>X</u>
c. Cause a substantial increase in transit demand which cannot be accommodated by existing or proposed transit capacity?	<u> </u>	<u>X</u>	<u>X</u>
d. Cause a substantial increase in parking demand which cannot be accommodated by existing parking facilities?	<u>X</u>	<u> </u>	<u>X</u>

The EIR will examine existing traffic levels and the capacity of existing roadways in relation to the expected increase in traffic levels that would be generated by the proposed project. Particular attention will be paid to the potential increase in truck traffic related to the fish handling business which could be an outcome of the project.

The EIR will specifically analyze existing and projected Levels of Service (LOS) for designated area intersections. If these analyses show that there is the potential for a significant decrease in the service level of intersections, mitigation measures designed to alleviate traffic congestion will be developed and discussed. Pedestrian and traffic safety issues will also be addressed in the EIR.

Parking facility demand and supply will be analyzed in the EIR. The EIR will detail existing facilities, estimate expected demand as a result of the proposed project and determine whether the proposed plans provide sufficient parking.

While the potential increase in traffic and parking demand would not be expected to be significant within the urban context of the site's vicinity, transportation issues are of interest and concern to residential and commercial property owners, tenants, and visitors throughout San Francisco. For this reason, and because existing parking and traffic conditions in the vicinity are already congested, the EIR will discuss potential effects of the project related to automobile traffic, transit, and parking. Potential traffic impacts during construction will also be discussed in the EIR.

5. Noise - Could the project:

	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
a.* Increase substantially the ambient noise levels for adjoining areas?	<u> </u>	<u>X</u>	<u>X</u>
b. Violate Title 24 Noise Insulation Standards, if applicable?	<u> </u>	<u>X</u>	<u>X</u>
c. Be substantially impacted by existing noise levels?	<u> </u>	<u>X</u>	<u>X</u>

A noise study done for an earlier proposal at Pier 45 quantified the existing noise levels and assessed the potential for increased noise levels as a result of a very similar proposed project. That report is summarized here. /7/ The closest sensitive receptors include the recreational users of Aquatic Park and the Dolphin Swim Club and the South End Swimming & Rowing Club, the GGNRA Hyde Street Historic Park visitors, several hotels located between one and two blocks from the project, and residences two blocks and more from the site. Noise measurements were taken at 25 locations in the project area and in nearby residential

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

areas. Both daytime and early morning (3:30 to 6:30a.m.) measurements were taken. Daytime readings ranged between 51 and 77dBA, with peaks associated with such events as buses, cable cars or fire engines passing reaching up to 84 dBA. Early morning readings ranged between 42 and 73 dBA, with peaks up to 84 dBA. The results show that the project is in an area with relatively high noise levels resulting from high volumes of traffic on nearby streets.

Peak noise generation at the project site occurs now and would occur in the future with the project during the herring season (December to early April), when pumps operate at Pier 45 and higher levels of fishing industry related traffic occur. The Port has received complaints about pump noise during this time of year. An electric pump operating when the noise measurements were taken registered about 70dBA at a distance of 50 feet. Average vessel starting noise is about 75dBA. Two vessels starting simultaneously produce a total of about 78dBA. The project would result in new noise generation from additional machinery associated with the fishing industry, from additional vessel motors, and from new traffic generated by the project.

The noise level increases by 3dBA for every doubling of the noise source in a similar location and is reduced by 6dBA for every doubling of distance from the source. An increase of 3dBA is "just noticeable" to humans. Against the background noise of trucks and buses currently experienced during the early morning hours in places between Pier 45 and the residential areas, with twice the present number of pumps in place and electrified, three quarters of them running simultaneously and two fishing vessels starting up, the noise level of the combined activity would barely be perceived at Jefferson and Taylor Streets. The noise level at 4:00 a.m. would be increased by about 3dBA, which is "just noticeable" to humans, over the current background. By 5:00 a.m., the background noise level would drown out any noise from the project. The recreational users of the nearby Parks and Clubs, considered to be sensitive receptors to noise, are typically not in the area until after 5:00 a.m.. Therefore, noise impacts are not considered significant and this topic will not be further discussed in the EIR.

Construction activities would generate noise. The greatest noise impact would occur during a period of about one month, when piles would be driven for the new berths about 300 feet to 600 feet north of Jefferson Street. The noise level from pile driving is about 105dBA at a distance of 50 feet. At nearby points in direct line (without intervening structures in the path of sound waves), such as points within the project site and Aquatic park, noise levels during this period would range from 83 to 89 dBA at the nearest section of Jefferson Street. This would be noticeable above the noise levels currently observed. In the flat areas to the south of the project site, this noise would be somewhat attenuated by distance and the intervening buildings. From residences on Russian Hill, without intervening structures, pile driving would perceptibly increase the present background noise levels to between 65 and 68 dBA, up to 3 dBA above the existing background noise levels. Because pile driving produces an intermittent noise, it would be more than "just noticeable" to residents even though average ambient noise levels would increase by only about 3dBA. However, construction noise is a short term impact, and therefore not considered to be a significant environmental impact except for unusually long construction periods (e.g. several years). Construction noise is regulated by the San Francisco Noise Ordinance (Article 29 of the City Police Code). Section 2908 of the Ordinance prohibits construction work at night, from 8:00 p.m. to 7:00 a.m., if noise would exceed the ambient noise level by five dBA at the project property line, unless a special permit is authorized by the Director of Public Works. There will not be a further discussion of this topic in the EIR.

6. Air Quality/Climate - Could the project:

	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
a.* Violate any ambient air quality standard or contribute substantially to an existing or projected air quality violation?	<u> </u>	<u> X </u>	<u> X </u>
b.* Expose sensitive receptors to substantial pollutant concentrations?	<u> </u>	<u> X </u>	<u> X </u>
c. Permeate its vicinity with objectionable odors?	<u> X </u>	<u> </u>	<u> </u>
d. Alter wind, moisture or temperature (including sun shading effects) so as to substantially affect public areas, or change the climate either in the community or region?	<u> </u>	<u> X </u>	<u> X </u>

Demolition and construction activity would temporarily raise dust levels in the area, but not to a level that would have significant impacts upon air quality, particularly because disturbed soils in the project area would be wet either from the Bay or from shallow ground water levels.

The Bay Area Air Quality Management District (BAAQMD) has established thresholds for projects requiring its review for potential air quality impacts. These thresholds are based on the minimum size projects (must generate more than 2000 vehicles per day) which the District considers capable of producing air quality problems; it does not appear that the project would exceed this minimum standard. If the transportation analysis prepared for the EIR indicates that it does, this topic would be included in the EIR.

The Port has received complaints in the past regarding odors from fish processing activities on Pier 45 as well as those that occur around the boats in the harbor. There will be further discussion of this topic in the EIR.

The proposed project would not substantially alter wind, moisture, or temperature conditions in the area. The proposed new structures would not be large enough to substantially alter wind patterns or cause a wind tunnel effect. Given the scale and locations of proposed buildings, they would not cast substantial shadows on public areas or cause any change of ambient temperature in a public place. The project does not include buildings or paved areas in sufficient volumes to alter the climate in the community or region. The EIR will not contain any further discussion of the proposed project in relation to ambient temperature or weather conditions on the site.

The boats use diesel fuel. Diesel-powered equipment would emit, in decreasing order by weight, nitrogen oxides, carbon monoxide, sulfur oxides, hydrocarbons, and particulates. These emissions would increase local concentrations intermittently.

7. Utilities/Public Services - Could the project:

	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
a.* Breach published national, state or local standards relating to solid waste or litter control?	<u> X </u>	<u> </u>	<u> X </u>
b.* Extend a sewer trunk line with capacity to serve new development?	<u> </u>	<u> X </u>	<u> </u>
c. Substantially increase demand for schools, recreation or other public facilities?	<u> </u>	<u> X </u>	<u> </u>
d. Require major expansion of power, water, or communications facilities?	<u> </u>	<u> X </u>	<u> X </u>

The EIR will discuss solid waste facilities affected by the proposed project and quantify the expected effect of the proposed project on these facilities.

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

Following the damage done to Pier 45 and its sheds in the 1989 Loma Prieta Earthquake, extensive work was required on all existing utilities and other systems. A description and analysis of that work and the completion and occupancy status will be discussed in the EIR.

There will also be a replacement of the sanitary sewer systems on the Hyde Street Pier. Stormwater runoff from the Hyde Street Pier currently drains directly into the Bay. With the project, the surface area at the Hyde Street Pier would increase. This runoff from the roof of the proposed buildings and pier deck at Hyde Street would be collected and treated before discharge into the Bay. A description of the new system and the water quality ramifications of these changes will be included in the EIR.

The proposed project could not have a significant effect on school facilities or generate a substantial number of new students to any one school facility. This determination is based on the relatively small number of new jobs that are expected to be generated by this project. The EIR will not contain any further discussion of impacts to school facilities. Similarly, usership of existing park and recreation facilities in the project vicinity would not be substantially affected by the limited and dispersed population increase associated with project-related employment. The EIR will not contain further discussion of effects on recreation and similar public facilities.

There are no known proposed or required new utility substations or new water supplies that would be required to serve the proposed project. There would be an increased demand for and use of public services and utilities on the site, and an increase in water and energy consumption, but not in excess of amounts expected and provided for in this area. There will be no further discussion in the EIR.

8. Biology - Could the project:

	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
a.* Substantially affect a rare or endangered species of animal or plant, or the habitat of the species?	<u>X</u>	<u> </u>	<u>X</u>
b.* Substantially diminish habitat for fish, wildlife or plants, or interfere substantially with the movement of any resident or migratory fish or wildlife species?	<u> </u>	<u>X</u>	<u> </u>
c. Require removal of substantial numbers of mature, scenic trees?	<u> </u>	<u>X</u>	<u> </u>

The EIR will contain discussion and analysis of the potential for the proposed project to affect local fish or wildlife, including rare or endangered species. The California Natural Diversity Data Base (CNDDB) maintained by the California State Department of Fish and Game will be consulted to determine if there are known rare or endangered species in the bay waters. The EIR will cover the need for any special permits required and current data on commercial species regulations. Mitigation measures will be included to protect species if required.

There are no existing trees on the piers. No further discussion will be required in the EIR.

9. Geology/Topography - Could the project:

	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
a.* Expose people or structures to major geologic hazards (slides, subsidence, erosion and liquefaction)?	<u> </u>	<u>X</u>	<u>X</u>
b. Change substantially the topography or any unique geologic or physical features of the site?	<u> </u>	<u>X</u>	<u> </u>

The project site is in a Special Geologic Study Area as shown in the Community Safety Element of the San Francisco Master Plan. This map indicates areas in which one or more geologic hazards exist. Reports on the geology of the land side of the project as well as the marine geology of the Bay are available in the project file. A geotechnical investigation report(prepared prior to the Loma Prieta earthquake) by a California-licensed geotechnical engineer is on file with the Department of City Planning and available for public review as part of the project file. /8/

Pre and post-quake status of Pier 45 and the four sheds located on it are also available for public review. /9/

There is an existing rock dike, remnant of an old pier foundation. It is east of the National Park and north of the existing concrete seawall. The subsurface materials are younger bay mud, bay side sand, older bay mud and Franciscan formation. Based on the exploration and laboratory tests performed for the proposed project and a review of geotechnical data pertinent to the area, it is the opinion of the geotechnical consultants that the harbor project is feasible. The major geotechnical considerations are foundation supports, rock dike stability, lateral resistance of piles, and seismic stability of the proposed structures. The soils underlying the site there have a low potential for soil liquefaction in a major seismic event. There are no indications that the site is underlain by any active or potentially active faults or that any such faults trend toward the site. The above cited reports contain recommendations regarding the size of piles to use for the foundations, and fill for the seawall and parking area which the project sponsor would incorporate into the final design for the facility.

The correction of earthquake damage at Pier 45, which included soils compaction of the fill portion of the Pier that was subject to liquefaction, makes expanded use of the existing sheds feasible. - /10/. Thus, there is no further need to discuss seismic and geologic issues in the EIR.

10. <u>Water</u> - Could the project:	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
a.* Substantially degrade water quality, or contaminate a public water supply?	<u>X</u>	<u>—</u>	<u>X</u>
b.* Substantially degrade or deplete ground water resources, or interfere substantially with ground water recharge?	<u>—</u>	<u>X</u>	<u>X</u>
c.* Cause substantial flooding, erosion or siltation?	<u>—</u>	<u>X</u>	<u>—</u>

A major focus of the EIR will be water quality. This will include analysis of the existing situation, any impact of the proposed project on water quality, and the measures that can be taken to avoid further water quality impacts. The EIR will describe and discuss relevant prior investigations of water quality.

Contamination of a public water supply will not be discussed in the EIR. It is not an issue because the bay is not a drinking water source.

The limited potential for effects on drainage, hydrology, and groundwater as a result of the proposed project will be discussed. The analysis will include consideration of the effects of erosion, sedimentation, added nitrates, biological oxygen demand, and other effects of runoff from the landside facilities into the Bay. This will include a discussion in the EIR of the placement of the new fill and potential construction impacts, such as increased turbidity in the Bay water.

Drainage patterns and groundwater recharge from increased impervious surfaces are not relevant issues. The proposed project does not include groundwater wells or increased pumping of groundwater; therefore, the EIR need not discuss depletion of groundwater resources as a result of the proposed project.

11. Energy/Natural Resources - Could the project:

	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
a.* Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner?	___	<u>X</u>	<u>X</u>
b. Have a substantial effect on the potential use, extraction, or depletion of a natural resource?	___	<u>X</u>	___

The proposed project would increase demand for and use of public services and utilities on the site and increase water and energy consumption, but not in excess of amounts expected and provided for in this area. Further discussion of these topics will not occur in the EIR.

12. Hazards - Could the project:

	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
a.* Create a potential public health hazard or involve the use, production or disposal of materials which pose a hazard to people or animal or plant populations in the area affected?	<u>X</u>	___	<u>X</u>
b.* Interfere with emergency response plans or emergency evacuation plans?	___	<u>X</u>	<u>X</u>
c. Create a potentially substantial fire hazard?	___	<u>X</u>	<u>X</u>

The EIR will evaluate the potential for the presence of soil and/or groundwater contamination due to the existing fuel storage tanks, and other potentially hazardous uses. The potential for Bay water contamination the potential for the generation of hazardous wastes as a result of project implementation will be discussed in the EIR, as well as the potential impact of the storage and use of hazardous materials.

The site is within the jurisdiction of San Francisco Public Works Code, Article 20, Sections 1000 through 1015, commonly known as the Maher Ordinance, and should 50 cubic yards or more be excavated, testing of all soil disturbed would be required using the Article 20 protocol. This requirement and procedure will be further discussed in the EIR.

The EIR will discuss existing emergency response plans in place within the police, fire, and Coast Guard services as well as the related infrastructure serving the site, particularly for fire protection. The adequacy of these services will be addressed in relation to the demands of the proposed project.

13. Cultural - Could the project:

	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
a.* Disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community, ethnic or social group; or a paleontological site except as a part of a scientific study?	___	<u>X</u>	<u>X</u>
b. Conflict with established recreational, educational, religious or scientific uses of the area?	<u>X</u>	___	<u>X</u>
c. Conflict with the preservation of buildings subject to the provisions of Article 10 or (proposed) Article 11 of the City Planning Code?	___	<u>X</u>	<u>X</u>

A cultural resources study has been prepared for the project and is available in the project file. /11/ The conclusions of the study are summarized here. The study is based on a review of historical literature and primary sources, and focuses on the potential existence of prehistoric or historic cultural resources below ground (or water) level which could be impacted by construction. Until the 1890s, the site was below the waterline of San Francisco Bay. It was largely filled between 1899 and 1929, much of the filling resulting from the disposal of rubble created by the earthquake and fire of 1906. A variety of industrial uses, maritime uses and recreational uses have been located in the area. The site area has been the focus of the San Francisco fishing industry since about 1900, when the industry's earlier location to the east, between Union and Lombard Streets was developed for general shipping.

The consultants identified several possible cultural resources which could exist on the project site and recommend a mitigation program to assure that any such resources which may be discovered during the course of construction can be identified and recovered or recorded as appropriate. It is possible that a shell mound (or portions of a shellmound) which was reported in 1861 as being near the project site still exists. The wreck of the Tonquin was shown on an 1853 map north of Jefferson Street near Leavenworth which is within the project site. Rubble from the 1906 earthquake was used to fill the site. These secondary deposits could yield artifacts of interest to scholars and the public. Materials from 19th century industry could exist on the project site. Because of these potential cultural resources, the consultants recommend that archaeological monitoring should be conducted whenever subsurface construction is undertaken in the project area. This program of archaeological monitoring, which would mitigate the potentially significant impacts of the project on cultural resources, is included by the Project Sponsor and is described in more detail in the section "Mitigation Measures Proposed as Part of the Project".

The San Francisco Maritime National Historic Park leases its space on the Hyde Street Pier from the Port. The Park holds two National Register properties on or near the project site. The Tubbs Cordage Company Office was built around 1890 at 611 Front Street. It was moved to its present location, about 10 to 15 feet west of the original site, in 1963. The Lewis Ark is a houseboat which was probably built in Belvedere or Tiburon in the early 1900s. It was moved to the Hyde Street Pier from Belvedere in 1969. It sits on the boundary of the site. Both of these structures would be moved to another location within the leasehold of the San Francisco Maritime National Historic Park as a result of the Project./12/ These wood frame structures would not be structurally affected by this move. Because both of these buildings were moved to their present locations in the 1960s, their historic value does not result from their current location, although their value is greater in a waterfront setting, which they will continue to possess. The project would not result in significant impacts on these historic resources. Several of the historic ships which are part of the San Francisco Maritime National Historic Park collection at the Hyde Street Pier are also on the National Register of Historic Places. The ships and the physical structures in the Maritime Park would not be adversely impacted by the project.

As an expansion of the existing fishing services facilities, the project is viewed as one that could conflict with established recreational uses of the water in the vicinity. The swimming and boating clubs located nearby believe the potential for additional water quality degradation would be hazardous to their members. The Golden Gate National Recreation Area borders the site and there are other educational institutions in the local area that have plans to expand their activities. Issues related the proposed uses of the site and potential conflicts with the recreational, educational, and scientific uses of the site and the surrounding waters, require further discussion in the EIR.

Several other potentially historic buildings are located within the project site, and were identified in the Northern Waterfront Findings Report and subsequent research by the Department of City Planning./13/ The bulkhead building and sheds at Pier 45 were built in 1929. Several buildings on Fish Alley were built in the early 1900s. The bulkhead building and shed at Pier 45 are rated 4 in the Department of City

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

Planning's 1976 Architectural Survey. /14/ These buildings are characteristic of historical maritime uses in the area. None of these buildings would be demolished or substantially altered as a result of the project.

C. OTHER

	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
Require approval of permits from City Departments other than Department of City Planning or Bureau of Building Inspection or from Regional, State or Federal Agencies?	<u>X</u>	<u> </u>	<u>X</u>

The EIR will discuss all known project-related reviews, permits, and approvals, and the affected permitting and responsible agencies, including but not limited to the United States Army Corps of Engineers, BCDC, Regional Water Quality Control Board, United States Coast Guard, and the State of California Boating and Waterways.

D. MITIGATION MEASURES PROPOSED AS PART OF THE PROJECT:

	<u>Yes</u>	<u>No</u>	<u>N/A</u>	<u>Discussed</u>
1. Could the project have a significant effect if mitigation measures are not included in the project?	<u>X</u>	<u> </u>	<u> </u>	<u>X</u>
2. Are all mitigation measures necessary to eliminate significant effects included in the project?	<u> </u>	<u>X</u>	<u> </u>	<u>X</u>

1. Cultural Resources Mitigation Measure. Given the strong possibility of encountering the remains of cultural or historic artifacts or features within the project site, the sponsor would retain the services of an archaeologist(s) with expertise in both prehistoric and ethnographic materials and maritime history. The archaeologist would supervise a program of on-site monitoring during site excavation and would record observations in a permanent log. Should cultural or historic artifacts be found following commencement of excavation activities, the archaeologist would assess the significance of the find, and immediately report to the ERO and the President of the LPAB. Upon receiving the advice of the consultants and the LPAB, the ERO would recommend specific mitigation measures, if necessary. The monitoring program, whether or not there are finds of significance would result in a written report to be submitted first and directly to the ERO, with a copy to the project sponsor.

Excavation or construction activities which might damage discovered cultural resources would be suspended for a total maximum of four weeks over the course of construction to permit inspection, recommendation and retrieval, if appropriate.

If cultural resources of potential significance are discovered, an appropriate security program would be implemented to prevent looting or destruction. Any discovered cultural artifact assessed as significant by the archaeologist upon concurrence by the ERO and the President of the LPAB, would be placed in a repository designated for such materials or displayed in a public place to be determined in conjunction with the ERO and the President of the LPAB.

Some elements of the proposed project are designed to avoid adverse environmental effects. These elements will be discussed and identified in the EIR as elements of the proposed project. The EIR will contain a mitigation chapter describing these measures and also including other measures which would be or could be adopted to reduce potential adverse effects of the project identified in the EIR.

E. ALTERNATIVES

Alternatives to the proposed project will be defined further and described in the EIR. At a minimum, alternatives analyzed will include the following:

- The No Project Alternative.
- An alternative designed with fewer berths and less parking, and fewer new uses in the sheds on Pier 45.
- Alternative site(s). An evaluation of whether alternative sites for certain portions of the project are feasible will be provided. Such sites may include building new facilities at an alternative location. The extent to which utilization of other sites would mitigate any significant environmental impacts will be discussed.

E. MANDATORY FINDINGS OF SIGNIFICANCE

	<u>Yes</u>	<u>No</u>	<u>Discussed</u>
1.* Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or pre-history?	<u>X</u>	<u> </u>	<u>X</u>
2.* Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?	<u> </u>	<u>X</u>	<u>X</u>
3.* Does the project have possible environmental effects which are individually limited, but cumulatively considerable? (Analyze in the light of past projects, other current projects, and probable future projects.)	<u>X</u>	<u> </u>	<u> </u>
4.* Would the project cause substantial adverse effects on human beings, either directly or indirectly?	<u> </u>	<u>X</u>	<u> </u>

The project would contribute to cumulative development impacts at Fisherman's Wharf, primarily in the areas of transportation and water quality. Applicable cumulative impacts will be discussed in the EIR. The EIR will address the potential for adverse environmental effects for the areas of study discussed in Section B of this Initial Study.

G. ON THE BASIS OF THIS INITIAL STUDY

- I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Department of City Planning.
- I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because the mitigation measures, numbers , in the discussion have been included as part of the proposed project. A NEGATIVE DECLARATION will be prepared.
- X I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Barbara W. Sahm

BARBARA W. SAHM
Environmental
Review Officer
for
Lucian R. Blazej
Director of Planning

Date: 7/7/94

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

IV. DISTRIBUTION LIST

FEDERAL AGENCIES

United States Army Corps of Engineers, San Francisco District
United States Fish and Wildlife Service
United States General Services Administration
United States Maritime Administration, Western Region
United States National Park Service
Golden Gate National Recreation Area
United States Coast Guard

STATE AGENCIES

California Department of Fish and Game
California Archaeological Inventory - Northwest Information Center
Department of Boating and Waterways
State Office of Intergovernmental Management
State Lands Commission

REGIONAL AGENCIES

Association of Bay Area Governments
Bay Area Air Quality Management District
Bay Conservation and Development Commission
Regional Water Quality Control Board
California Coastal Conservancy
Save San Francisco Bay

CITY AND COUNTY OF SAN FRANCISCO

Landmarks Preservation Advisory Board
Recreation and Park Department
San Francisco Redevelopment Agency
San Francisco Fire Department Division of Planning and Research

OTHER AGENCIES

County of San Mateo Planning Department
San Mateo County Harbor District
Port of Oakland

LIBRARIES

San Francisco Main Library

ADJACENT PROPERTY OWNERS and CITIZEN ADVISORY GROUPS

See List in Project File #93.574E

MEDIA

San Francisco Examiner

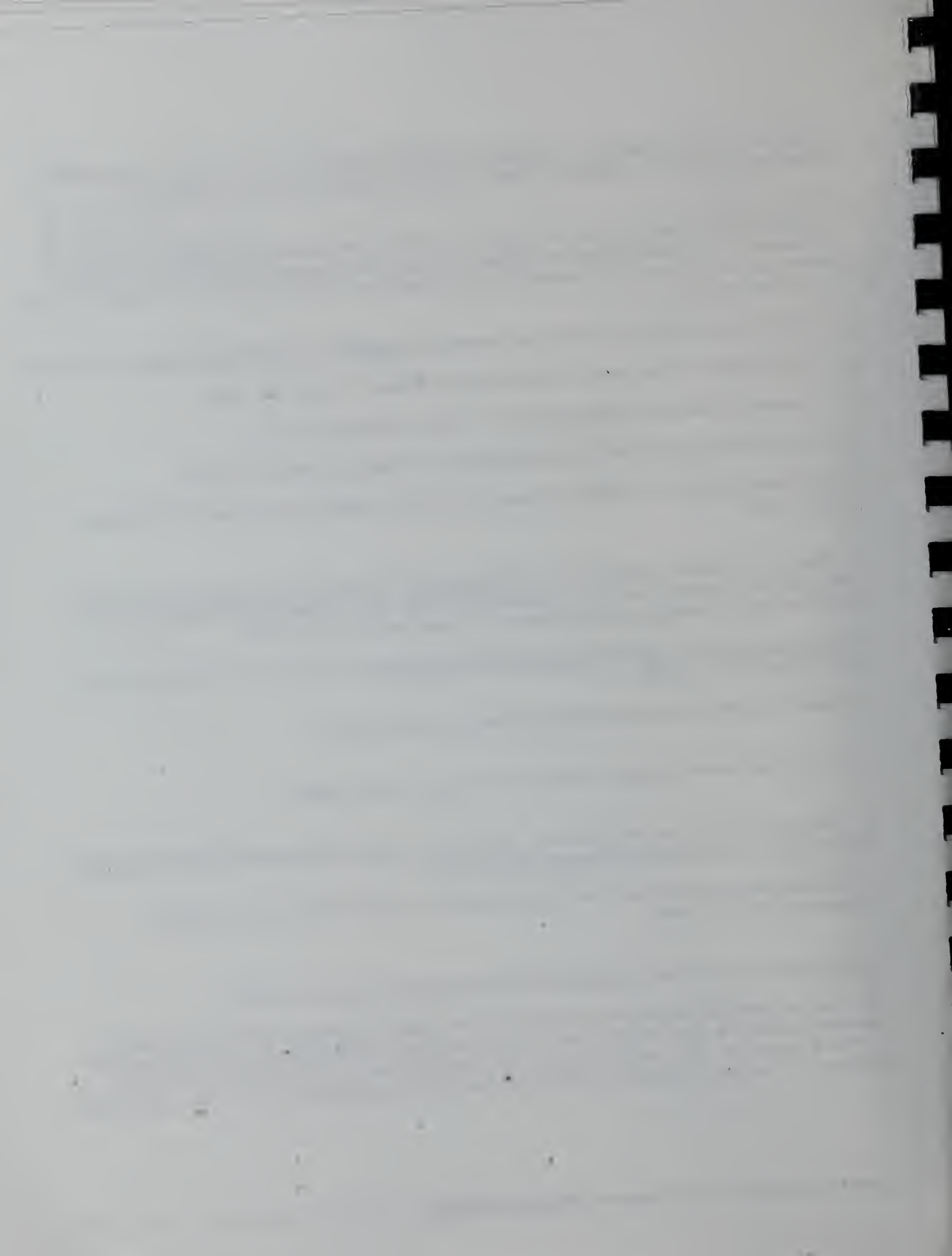
San Mateo Times

San Francisco Independent

PLEASE NOTE THAT FIGURES 1 THROUGH 5 WERE PRODUCED BY THE TEAM OF MOFFATT & NICHOL/AGS,INC/KWAN HENMI/STEVENS & ASSOC. IN 1988 for the Port of San Francisco.

NOTES TO TEXT:

1. Moffatt & Nichol, Engineers did an analysis of the Pier for the National Park Service, San Francisco Maritime N.H.P.. The report: "Hyde Street Pier Architectural and Engineering Study" is in the Planning Department file and documents the status of the Pier and what needed to be done to it in March of 1990 for Maritime Park use.
2. Moffat & Nichols, AGS Inc., Kwan Henmi Architects, Fisherman's Wharf Feasibility Study, June 1988.
3. FEMA Project - Pier 45, Note to File by Catherine Bauman, October 26, 1990.
4. Conversation with Port Representative, Dan Hoddap - October 21, 1993
5. Information derived from earlier studies done for the Fisherman's Wharf Area Plan.
6. Information provided in a telephone conversation with the Assistant Harbormaster for Pier 39 on March 3, 1994.
7. Bendix Environmental Research Inc., Fisherman' Wharf Seafood Center Noise Report, August 4, 1989. dBA is a measure of sound in units of decibels (dB). The "A" denotes the A-weighted scale, which simulates the response of the human ear to various frequencies of sound.
8. Fisherman's Wharf Harbor Geotechnical Investigation Report, prepared by AGS, Inc for the Port of San Francisco, June 1, 1988.
9. Need to get titles for geotechnical reports done for the Pier 45 work.
10. Pier 45 Geotechnical Reports - earthquake damage and reconstruction
11. Laurence H. Shoup and Suzanne Baker, A Cultural Resources Overview of the Fisherman's Wharf Seafood Center Project Area and Environs, March 1989.
12. Michael Bell, Project Manager, San Francisco Maritime National Historical Park, telephone conversation, March 30,1994.
13. Department of City Planning, Northern Waterfront Findings Report, March 1987.
14. The San Francisco Department of City Planning conducted a citywide inventory of architecturally significant buildings in 1976. Buildings were awarded a rating for architectural merit ranging from a low of "0" to a high of "5". In the opinion of those who conducted the survey, the best 10% of the City's buildings were included in the survey, and those rated "3" to "5" represent 2% of the City's building stock.



APPENDIX B.
WATER QUALITY AND SEDIMENT QUALITY DATA, OIL SPILL NOTIFICATION

TABLE 1. WATER QUALITY SAMPLING DATA FOR HYDE STREET HARBOR/PIER 45, May 1995

Sampling Results, May 10, 1996												
Parameter	Units	Reporting Limit	Station 1 Inner Lagoon	Station 2 Outer Lagoon	Station 3 Main Basin (Outer Harbor)	Station 4 Aquatic Park	Station 4 Aquatic Park (Dup)	Station 5 West of Municipal Pier	Station 6 Northeast of Breakwater	Basin Plan Water Quality Objectives*	EPA Water Quality Standards**	Regional Monitoring Program***
Conventional												
Temperature (field data)	deg. C		15	14.8	15.1	15.1		15	15	(a)		17
Salinity (field data)	ppt		11	11	11	11		14	10	(a)		28
pH (field data)	units		7.79	7.92	7.88	7.81		7.93	7.81	6.5 - 8.5		7.9
Turbidity	NTU	1	4.3	5.1	4.8	5	5	5.3	6.2	(a)		—
Total Suspended Solids	mg/L	4	ND	ND	ND	ND	ND	ND	ND	(a)		3.8
Biochemical Oxygen Demand, 5-day	mg/L		22	17	11	12	11	15	17	none		—
Bacteria												
Total Coliform	MPN/100 ml	2	300	500	1600	50	30	30	13	<1,000 (b)		—
Fecal Coliform	MPN/100 ml	2	80	300	50	13	8	17	8	log mean<200 (b)		—
Enterococci	MPN/100 ml	2	34	50	23	<2	2	<2	2	35 (c)		—
Nutrients												
Ammonia Nitrogen, Total	mg/L		0.11	0.12	0.10	0.09	0.10	0.10	0.09	0.16 (d)		
Metals - Total Recoverable												
Arsenic	ug/L	1	2.0	2.0	2.1	2.1	2.3	2.3	2.2	36 (e)		1.72
Cadmium	ug/L	0.2	ND	ND	ND	ND	ND	ND	ND	9.3 (e)		0.067
Chromium, Total	ug/L	1	ND	ND	ND	ND	ND	ND	ND	50 (e)		1.27
Copper	ug/L	1	4.6	3.7	3.9	3.4	3.8	3	3.1	(f)		2.02
Lead	ug/L	1	ND	ND	ND	ND	ND	ND	ND	5.6 (e)		0.35
Mercury	ug/L	0.2	ND	ND	ND	ND	ND	ND	ND	0.025 (e)		0.004
Nickel	ug/L	2	2.6	2.7	2.6	2.2	2.6	2.4	2.5	7.1 (g)		1.8
Selenium	ug/L	0.2	ND	ND	ND	ND	ND	ND	ND	(h)		0.22
Silver	ug/L	0.2	ND	ND	ND	ND	ND	ND	ND	2.3 (i)		0.068
Zinc	ug/L	1	12	14	15	8.1	8.3	9.5	8.1	58 (g)		2.89
Metals - Dissolved												
Arsenic	ug/L	1	1.6	1.5	1.5	1.4	1.2	1.4	1.2		36	1.63
Cadmium	ug/L	0.2	ND	ND	ND	ND	ND	ND	ND		9.3	0.064
Chromium, Total	ug/L	1	ND	ND	ND	ND	ND	ND	ND		50	0.09
Copper	ug/L	1	3.2	2.2	2.2	2.8	2.2	1.9	1.8		2.4	1.02
Lead	ug/L	1	ND	ND	ND	ND	ND	ND	ND		8.1	0.009
Mercury	ug/L	0.2	ND	ND	ND	ND	ND	ND	ND		0.025	0.001
Nickel	ug/L	2	5.7+	ND	ND	ND	ND	ND	ND		8.2	1.02
Selenium	ug/L	0.2	ND	ND	ND	ND	ND	ND	ND		71	0.19
Silver	ug/L	0.2	ND	ND	ND	ND	ND	ND	ND		1.9	0.002
Zinc	ug/L	1	5.2	7.9	3.7	1.7	4.3	1.4	1.1		81	0.58
Organics												
Polynuclear Aromatic Hydrocarbons	ng/L	(MDL)								15,000 (j)		
Naphthalene	ng/L	7.38	41.3 U	43.1 U	88.1	27.2 U	31.4 U	28.0 U	31.2 U		—	
Acenaphthylene	ng/L	11.4	ND	ND	ND	ND	ND	ND	ND		—	
Acenaphthene	ng/L	11	ND	22.4 J	17.1 J	12.2 J	22.1 J	11.8 J	33.8 J		—	

Water Quality Study
Hyde St Harbor/Pier 45 EIR

Parameter	Units	Reporting Limit	Station 1 Lagoon Inner	Station 2 Outer Lagoon	Station 3 Main Basin (Outer Harbor)	Station 4 Aquatic Park	Station 4 Aquatic Park (Dup)	Station 5 West of Municipal Pier	Station 6 Northeast of Breakwater	Basin Plan Water Quality Objectives*	EPA Water Quality Standards**	Regional Monitoring Program***
(j) Polynuclear aromatic hydrocarbons (PAHs) are those compounds identified by EPA Method 610. The U.S. EPA criterion indicates that 31 ng/L is protective of human health based on an acceptable lifetime cancer risk of one in one million.												
(k) No value listed in 1995 Basin Plan Update, Table III-3, for tributyltin. Based on technical information, 5 ng/L (30-day average) would be protective of human health.												
Dup = Duplicate Sample												
ND = Not Detected, below reporting limit												
NTU = Nephelometric Turbidity Unit												
MPN = Most Probable Number												
MDL = Method Detection Limit												
ppt = parts per thousand												
mg/L = milligram per liter or parts per million												
ug/L = microgram per liter or parts per billion												
ng/L = nanogram per liter or parts per trillion												
U = Qualified result for concentrations less than 5 times the method blank concentration												
J = Estimated value; concentration below the practical quantitation limit but above the method detection limit.												
Shaded value in bold indicates value exceeds regulatory objective or standard, although single data point cannot be directly compared to objective or standard, which is based on an average value over a defined period.												
SOURCE: Woodward-Clyde Consultants, 1995; Calif. Regional Water Quality Control Board, 1995; U.S. EPA, 1992 and 1995; SF Estuary Inst., 1994, and Orton Environmental Associates, 1995.												

Advanced Biological Testing Inc.

TABLE 2

SUMMARY OF SEDIMENT CHARACTERIZATION
Fisherman's Wharf- Port of San Francisco
Sampled 9/1/1994

Analyte (1)	Site	OUTER HARBOR	OUTER LAGOON	Alcatraz Reference	Detection	Limit
		FW-1	FW-2		Achieved (2)	Required (3)
Grain size (%)						
Gravel		0.0	0.6	7.8		
Sand		9.2	40.3	90.7		
Silt		45.3	28.9	0.5		
Clay		45.5	30.1	1.0		
Solids (%) (Dry Wt.)		49.2	51.9	84.9		0.1
<u>Sulfides (mg/kg)</u>						
Total		199	182	<1.2	0.1	0.5
Water Soluble		<0.2	<0.2	<0.1	0.1	0.1
Total Organic Carbon (%)		1.17	0.84	0.06		0.1
TRPH (mg/kg)		43.7	48.9	88.5	1.0	0.1
<u>Organotins (ug/kg)</u>						
Tetraethyltin		3.05	<1.9	<1.2	1.0	1.0
Triethyltin		<2.0	2.93	<1.2	1.0	1.0
Diethyltin		<2.0	<1.9	<1.2	1.0	1.0
Monoethyltin		<2.0	<1.9	<1.2	1.0	1.0
<u>Metals (mg/kg)</u>						
Arsenic (As)		8.13	7.51	5.21		0.1
Cadmium (Cd)		0.368	0.509	<0.024		0.1
Chromium (Cr)		69.9	66.7	22.4		0.1
Copper (Cu)		45.9	41.6	3.67		0.1
Lead (Pb)		27.4	32.2	7.16		0.1
Mercury (Hg)		0.240	0.362	0.038		0.2
Nickel (Ni)		71.5	59.3	21.6		0.1
Selenium (Se)		<2.03	<1.93	<1.18	1.0	0.1
Silver (Ag)		<0.081	<0.077	<0.047	0.04	0.1
Zinc (Zn)		103	98.3	4.51		0.1
<u>Pesticides and PCBs (ug/kg)</u>						
4,4' - DDD		ND	ND	ND	2	2
4,4' - DDE		ND	ND	ND	2	2
4,4' - DDT		ND	ND	ND	2	2
Aldrin		ND	ND	ND	2	2
alpha-BHC		ND	ND	ND	2	2
beta BHC		ND	ND	ND	2	2
Chlordane		ND	ND	ND	25	25
Delta-BHC		ND	ND	ND	2	2
Dieldrin		ND	ND	ND	2	2
Endosulfan I		ND	ND	ND	2	2
Endosulfan II		ND	ND	ND	2	2
Endosulfan Sulfate		ND	ND	ND	25	25
Endrin		ND	ND	ND	2	2
Endrin Aldehyde		ND	ND	ND	10	10
Heptachlor		ND	ND	ND	2	2
Heptachlor Epoxide		ND	ND	ND	10	10
Lindane		ND	ND	ND	2	2
Methoxychlor		ND	ND	ND	25	25
Toxaphene		ND	ND	ND	25	25
PCB Arochlor 1016		ND	ND	ND	20	20
PCB Arochlor 1221		ND	ND	ND	20	20
PCB Arochlor 1232		ND	ND	ND	20	20
PCB Arochlor 1242		ND	ND	ND	20	20
PCB Arochlor 1248		ND	ND	ND	20	20
PCB Arochlor 1254		ND	ND	ND	20	20
PCB Arochlor 1260		ND	ND	ND	20	20

(1) All chemical analyses are given as dry weight basis unless noted.

(2) Detection limits are given as wet weight basis since the dry weight values are arithmetically derived.

(3) Detection limits required by ACOE.

Advanced Biological Testing Inc.

TABLE 2 (Cont'd)

SUMMARY OF SEDIMENT CHARACTERIZATION Fisherman's Wharf- Port of San Francisco Sampled 9/1/1994

Analyte (1)	Site	OUTER HARBOR	OUTER LAGOON	Alcatraz Reference	Detection	Limit
		FW-1	FW-2		Achvd (2)	Reqd (3)
<u>PAHs (µg/kg)</u>						
Naphthalene		ND	ND	ND	20	20
Acenaphthylene		ND	ND	ND	20	20
Acenaphthene		ND	ND	ND	20	20
Fluorene		ND	ND	ND	20	20
Phenanthrene		70.7	73.2	258	20	20
Anthracene		ND	52.0	76.8	20	20
Fluoranthene		143	229	237	20	20
Pyrene		182	391	350	20	20
Benzo (A) Anthracene		75.0	128	144	20	20
Chrysene		84.6	158	140	20	20
Benzo (B) Fluoranthene		ND	109	51.1	20	20
Benzo (K) Fluoranthene		ND	183	67.1	20	20
Benzo (A) Pyrene		ND	173	93.1	20	20
Dibenzo (A,H) Anthracene		ND	ND	ND	20	20
Ideno (1,2,3-CD) Pyrene		ND	ND	ND	20	20
Benzo (G,H,I) Perylene		ND	ND	ND	20	20
Total		555.3	1496.2	1417.1		
<u>Phthalate Esters (µg/kg)</u>						
Bis (2-ethylhexyl) Phthalate		ND	ND	ND	50	20
Butylbenzyl Phthalate		ND	ND	ND	8.5	20
Di-n-butyl Phthalate		ND	ND	ND	9	20
Diethyl Phthalate		ND	ND	ND	12	20
Dimethyl Phthalate		ND	ND	ND	7.3	20
Di-n-octyl Phthalate		ND	ND	ND	75	20
Total		0	0	0		

Initial Ammonia

Final Ammonia

(1) All chemical analyses are given as dry weight basis unless noted.

(2) Detection limits are given as wet weight basis since the dry weight values are arithmetically derived.

(3) Detection limits required by ACOE.

Advanced Biological Testing Inc.

TABLE 2 (Cont'd)

SUMMARY OF SEDIMENT CHARACTERIZATION Fisherman's Wharf- Port of San Francisco Sampled 10/28/94

Analyte (1)	Site	OUTER HARBOR	OUTER LAGOON	Detection	
		FW-1	FW-2	Achieved (2)	Limit Required (3)
Grain size (%)					
Gravel		1.3	0.6/1.2		
Sand		10.6	23.0/27.4		
Silt		45.9	38.9/34.5		
Clay		42.2	37.5/37.0		
Solids (%) (Dry Wt.)		53.5	54.4		0.1
Sulfides (mg/kg)					
Total		198	224	0.1	0.5
Water Soluble		<0.2	<0.2	0.1	0.1
Total Organic Carbon (%)		1.19	1.03		0.1
TRPH (mg/kg)		77.9	95.8	1.0	0.1
Organotins (ug/kg)					
Tetrabutyltin		<1.9	<1.8	1.0	1.0
Tributyltin		<1.9	3.68	1.0	1.0
Dibutyltin		<1.9	<1.8	1.0	1.0
Monobutyltin		<1.9	<1.8	1.0	1.0
Metals (mg/kg)					
Arsenic (As)		8.41	7.46		0.1
Cadmium (Cd)		0.538	0.625		0.1
Chromium (Cr)		69.5	64.0		0.1
Copper (Cu)		49.3	49.3		0.1
Lead (Pb)		33.5	36.6		0.1
Mercury (Hg)		0.314	0.393		0.2
Nickel (Ni)		66.2	57.4		0.1
Selenium (Se)		<1.87	<1.84	1.0	0.1
Silver (Ag)		0.247	0.325		0.1
Zinc (Zn)		115	116		0.1
Pesticides and PCBs (ug/kg)					
4,4' - DDD		ND	ND	2	2
4,4' - DDE		ND	ND	2	2
4,4' - DDT		ND	ND	2	2
Aldrin		ND	ND	2	2
alpha-BHC		ND	ND	2	2
beta BHC		ND	ND	2	2
Chlordane		ND	ND	25	25
Delta-BHC		ND	ND	2	2
Dieldrin		ND	ND	2	2
Endosulfan I		ND	ND	2	2
Endosulfan II		ND	ND	2	2
Endosulfan Sulfate		ND	ND	25	25
Endrin		ND	ND	2	2
Endrin Aldehyde		ND	ND	10	10
Heptachlor		ND	ND	2	2
Heptachlor Epoxide		ND	ND	10	10
Lindane		ND	ND	2	2
Methoxychlor		ND	ND	25	25
Toxaphene		ND	ND	25	25
PCB Arochlor 1016		ND	ND	20	20
PCB Arochlor 1221		ND	ND	20	20
PCB Arochlor 1232		ND	ND	20	20
PCB Arochlor 1242		ND	ND	20	20
PCB Arochlor 1248		ND	ND	20	20
PCB Arochlor 1254		ND	ND	20	20
PCB Arochlor 1260		ND	ND	20	20

(1) All chemical analyses are given as dry weight basis unless noted.

(2) Detection limits are given as wet weight basis since the dry weight values are arithmetically derived.

(3) Detection limits required by ACOE.

Advanced Biological Testing Inc.

TABLE 2 (Cont'd)

SUMMARY OF SEDIMENT CHARACTERIZATION
Fisherman's Wharf- Port of San Francisco
Sampled 10/28/94

Analyte (1)	Site	OUTER HARBOR	OUTER LAGOON	Detection	Limit
		FW-1	FW-2	Achvd (2)	Reqd (3)
<u>PAHs (µg/kg)</u>					
Naphthalene		ND	ND	20	20
Acenaphthylene		49.5	ND	20	20
Acenaphthene		ND	ND	20	20
Fluorene		ND	ND	20	20
Phenanthrene		200	ND	20	20
Anthracene		86.5	ND	20	20
Fluoranthene		308	50.2	20	20
Pyrene		439	82.4	20	20
Benzo (A) Anthracene		139	ND	20	20
Chrysene		165	ND	20	20
Benzo (B) Fluoranthene		113	ND	20	20
Benzo (K) Fluoranthene		189	ND	20	20
Benzo (A) Pyrene		222	ND	20	20
Dibenzo (A,H) Anthracene		ND	ND	20	20
Ideno (1,2,3-CD) Pyrene		132	ND	20	20
Benzo (G,H,I) Perylene		175	ND	20	20
Total		2218	132.6		
<u>Phthalate Esters (µg/kg)</u>					
Bis (2-ethylhexyl) Phthalate		204	210	50	20
Butylbenzyl Phthalate		ND	ND	8.5	20
Di-n-butyl Phthalate		126	134	9	20
Diethyl Phthalate		ND	ND	12	20
Dimethyl Phthalate		ND	ND	7.3	20
Di-n-octyl Phthalate		ND	ND	75	20
Total		330	344		

(1) All chemical analyses are given as dry weight basis unless noted.

(2) Detection limits are given as wet weight basis since the dry weight values are arithmetically derived.

(3) Detection limits required by ACOE.

Oil Spill Notification List

For Very Large Oil Spills:

Notify local response coordinator, Battalion Chief No. 2 at 911 or (415) 861-8000 or (415) 861-8020. Battalion Chief will decide whether to activate incident command system. Battalion Chief will make all other necessary notifications.

For Smaller Oil Spills or Oil Spill In Which U.S. Coast Guard or another governmental agency is the first responder:

FEDERAL NOTIFICATIONS

1. U.S. Coast Guard Marine Safety Office
(510) 437-3073
2. National Response Center
(800) 424-8802
3. U.S. EPA, Region IX
(415) 974-8131 OR
Spill Phone: (415) 774-2000
4. Chem-Trec (Optional, for information on haz. mats.)
(800) 424-9300

STATE NOTIFICATIONS

1. Office of Emergency Services (OES)
(800) 852-7550
2. Department of Fish and Game, OSPRE
(916) 445-9338
(800) 852-7550
3. California Regional Water Quality Control Board,
Region 2
(510) 286-1255

NOTE: MAKE NOTIFICATIONS OVER THE PHONE AS SOON AS POSSIBLE AFTER YOU BECOME AWARE OF THE INCIDENT. PROVIDE INFORMATION ON ATTACHED SHEET. INFORM ENVIRONMENTAL DEPARTMENT STAFF OF THE INCIDENT SO THAT PORT CAN SUBMIT THE REQUIRED FOLLOW UP REPORTS.

TAB B: EMERGENCY NOTIFICATION INFORMATION

As soon as an oil discharge is known, the Local Response Coordinator is to make the necessary notifications to the relevant agencies and organizations on the notification list depending on the nature and location of the spill. The Local Response Coordinator should provide enough information for the contact persons to be prepared for response operations specific to the spill and to respond in a timely manner. This information should be reported, if known, to the appropriate agencies/response personnel on the contact list and would include, but not limited to, the following:

1. Caller's name, position, and phone number to call back for more information; location of the spill
2. Location of the spill
3. Date and time of the spill
4. Type of material
5. Estimated size of the spill
6. Status of the spill and response actions that have been taken (abatement/control measures)
7. Source and cause of the spill
8. Potential public health and safety issues and environmental damages
9. Weather and seastate conditions
10. Immediate needs and proper precautions to take at the spill site
11. Name of the Potential Responsible Party (PRP) and phone number, if known
12. Other agencies or response personnel that have already been notified of the spill.

POTENTIAL WATER QUALITY EFFECTS ON MARINE BIOTA

MEC Analytical Systems conducted a review of the 1995 sampling results with respect to potential water quality effects on marine biota and specifically those chemicals of most concern to marine organisms,¹ as summarized below.

The chemicals that were sampled and analyzed for in the project area that are of potential concern to marine organisms based on the concentrations measured include copper, tributyltin, benzo(a)anthracene, and chrysene. In general, the measured concentrations of these chemicals would not be expected to be harmful to marine organisms, as discussed below.

The dissolved copper concentration was measured at 3.2 ug/L in the Inner Lagoon and 2.8 ug/L in Aquatic Park, both exceeding the current U.S. EPA standard of 2.4 ug/L (both as the criterion maximum concentration and the criterion continuous concentration). However, the measured concentrations are not at a level expected to be toxic to marine organisms. The Clean Water Act is currently under revision, and the U.S. EPA is considering revising the saltwater copper criteria to 4.8 ug/L (criterion maximum concentration dissolved copper) and 3.1 ug/L (criterion continuous concentration dissolved copper).²

Tributyltin was detected above the reporting limit (13 ng/L) in the Inner Lagoon, but was less than the reporting limit of 5 ng/L at the other five sampling stations. Although the current Basin Plan has no water quality objective listed for tributyltin, the Basin Plan does indicate that 5 ng/L (30-day average) would be protective of human health. Tributyltin has been found to be one of the most toxic synthetic chemicals known for some marine life and is acutely toxic to marine organisms at concentrations as low as 100 ng/L. The concentrations measured in the project area in May 1995 were below the level that would be expected to affect the mortality of marine life. Chronic effects to marine organisms have been observed at concentrations of 9 ng/L (including impacts to the development of reproductive organs in juvenile mud snails, *Nucella lapillus*), 10 ng/L (affecting egg production in adult copepods, *Acartia tonsa*), and 20 ng/L (inhibiting growth in oyster spat, *Crassostrea gigas*). Greater effects occur at concentrations of 100 to 200 ng/L.³ Thus, some sublethal effects to marine organisms could occur in the Inner Lagoon due to the

¹ MEC Analytical Systems, 1995. Marine Biota Setting and Environmental Consequences of Water Quality, San Francisco Pier 45 Project. March, July and August, 1995.

² Federal Register, Volume 60, No. 86, Thursday, May 4, 1995. Rules and Regulations. 40 CFR 131.

³ State Water Resources Control Board, 1988. Tributyltin: A California Water Quality Assessment. Division of Water Quality, Report No. 88-12. December 1988.

presence of tributyltin in the range of the concentration measured.

Benzo(a)anthracene was not detected in concentrations above the method detection limit of 5.42 ng/L. The U.S. EPA criteria for benzo(a)anthracene for protection of human health (based on a one in a million risk for carcinogen) are 2.8 ng/L for consumption of water and organisms and 31 ng/L for consumption of organisms only. Acute toxicity of benzo(a)anthracene to aquatic organisms has been demonstrated at concentrations of approximately 1 to 2 ppm (1 to 2 million ng/L). *Lepomis macrochirus* (bluegill) exposed to 1 ppm (1 million ng/L) benzo(a)anthracene for six months showed 87 percent mortality.⁴ In a study on photo-induced toxicity of PAHs to larvae of the fathead minnow (*Pimephales promelas*), concentrations of 1.8 ppm (1.8 million ng/L) benzo(a)anthracene resulted in a LC₅₀ (lethal concentration in which 50 percent of the test population exhibited lethal effects) at 65.1 hours.⁵ Accumulation effects would be expected to occur at lower concentrations. The polychaete *Nereis virens* exposed to water contaminated with 0.075 to 0.102 ppm (75,000 to 102,000 ng/L) benzo(a)anthracene accumulated and metabolized this PAH.⁶ Results of these studies indicate that levels of benzo(a)anthracene measured in the project area are lower by several orders of magnitude than those likely to harm aquatic organisms.

Chrysene was detected at one station at a concentration of 6.8 ng/L (or 0.0000068 ppm). The U.S. EPA criteria for chrysene for protection of human health (based on a 10⁻⁶ risk for carcinogen) are 2.8 ng/L for consumption of water and organisms and 31 ng/L for consumption of organisms only. In a study by Rossi and Neff (1978),⁷ immature specimens of the sediment-dwelling marine worm *Neanthes arenaceodentata* were exposed to concentrations of 1 ppm chrysene. Lethal effects (50 percent mortality in 96 hours) were not observed for this compound. Toxicity of the various PAHs tested in the study appeared to be related to their solubility in water. The lack of acute toxicity exhibited by chrysene may be related to its relatively low solubility in water. Although few studies are available on toxicity of chrysene to marine organisms, information from the Rossi and Neff study suggest that concentrations of chrysene measured in the project area are not harmful to benthic marine organisms.

⁴ Brown, E.R., L. Keith, J.J. Hazdra, and T. Arndt, 1973. Tumors in fish caught in polluted waters: Possible explanations. Bibl. Haematol. 40: 47-57.

⁵ Oris, J.T., and J.P. Giesy, Jr., 1987. The photo-induced toxicity of polycyclic aromatic hydrocarbons to larvae of the fathead minnow (*Pimephales promelas*). Chemosphere 16: 1395-1404.

⁶ McElroy, A.E., 1990. Polycyclic aromatic hydrocarbon metabolism in the polychaete *Nereis virens*. Aquat. Toxicol. 18:35-50.

⁷ Rossi, S.S., and J.M. Neff, 1978. Toxicity of polynuclear aromatic hydrocarbons to the polychaete *Neanthes arenaceodentata*. Mar. Pollut. Bull. 9:220-223.

SF BAY AREA COMMERCIAL FISH LANDINGS
Dept. of Fish & Game Statistics for Select Species (Table 15)

11-30-95 commfish

Species	1988		1989		1990		1991		1992		1993		1994	
	Pounds	\$ Value	Pounds	\$ Value	Pounds	\$ Value	Pounds	\$ Value	Pounds	\$ Value	Pounds	\$ Value	Pounds	\$ Value
Anchovy, Northern	1,085,448	\$122,538	1,665,190	\$162,526	1,573,980	\$153,145	1,012,330	\$108,090	362,430	\$34,406	537,736	\$108,972	616,472	\$83,107
Halibut, California	136,302	\$313,393	175,873	\$409,983	170,923	\$419,040	261,142	\$628,562	341,041	\$818,387	319,331	\$783,024	273,436	\$694,585
Herring, Roe on Kelp	15,877	\$31,755	87,584	\$175,117	185,750	\$1,525,370	143,971	\$1,253,960	127,872	\$702,725	-	-	67,755	\$109,376
Herring, Pacific	18,860,038	\$5,533,969	20,309,114	\$4,422,116	15,915,100	\$6,827,150	15,740,200	\$8,212,330	13,716,900	\$9,424,790	8,358,940	\$2,016,940	6,313,210	\$2,814,910
Lingcod	518,757	\$206,705	700,362	\$295,908	732,365	\$288,090	642,783	\$257,210	390,191	\$171,027	598,371	\$259,715	458,021	\$215,439
Rockfish, Bocaccio	807,759	\$295,732	667,982	\$237,931	1,494,490	\$489,491	811,023	\$265,300	676,128	\$246,983	707,250	\$259,235	379,794	\$149,289
Rockfish, Chilipepper	823	\$463	10,172	\$3,411	2,474	\$889	1,488,830	\$487,389	2,474,500	\$860,801	1,291,760	\$477,675	1,215,680	\$523,765
Rockfish, Group Red	208,230	\$128,484	213,928	\$160,073	457,796	\$255,927	574,297	\$319,804	452,583	\$299,868	327,542	\$238,248	279,756	\$188,067
Rockfish, Unspecified	3,389,304	\$1,252,206	3,111,485	\$1,094,912	5,132,830	\$1,793,390	2,617,510	\$1,041,830	2,072,060	\$893,573	1,840,850	\$867,833	714,033	\$304,560
Rockfish, Widow	747,963	\$238,614	608,046	\$161,799	1,484,180	\$422,939	922,635	\$273,598	855,716	\$267,104	408,685	\$130,635	263,305	\$98,210
Sablefish	2,291,971	\$1,083,690	2,937,018	\$1,313,176	2,053,090	\$823,882	1,772,810	\$826,969	1,473,660	\$766,912	1,000,980	\$400,931	754,237	\$493,891
Salmon, Chinook	7,149,907	\$20,393,747	2,519,621	\$6,025,545	1,882,300	\$5,203,210	1,682,840	\$4,336,800	992,615	\$2,738,970	1,347,930	\$3,012,050	2,185,460	\$4,531,370
Sanddab	603,094	\$207,307	782,490	\$238,095	760,068	\$231,304	879,531	\$304,000	426,240	\$157,276	503,650	\$234,458	826,885	\$306,713
Sole, Dover	2,717,828	\$838,446	3,511,073	\$949,022	2,800,840	\$725,088	4,090,300	\$1,222,750	4,426,800	\$1,237,670	3,030,430	\$838,608	1,697,030	\$460,524
Sole, English	552,522	\$225,427	709,565	\$276,199	851,447	\$288,622	816,786	\$298,244	529,268	\$196,152	469,983	\$169,098	444,771	\$166,659
Sole, Petrale	518,284	\$379,514	517,886	\$403,934	626,626	\$507,523	519,297	\$431,409	349,710	\$284,619	355,043	\$289,769	326,053	\$283,805
Swordfish	41,089	\$167,494	331,202	\$1,185,872	329,133	\$1,124,820	315,794	\$1,282,440	330,626	\$1,159,470	280,568	\$956,032	75,705	\$285,178
Thornyhead	320,080	\$111,812	759,441	\$281,223	841,000	\$321,836	785,696	\$346,588	122,280	\$572,254	986,880	\$479,362	496,797	\$333,821
Tuna, Albacore	362,818	\$312,817	567,558	\$433,882	431,703	\$362,661	560,231	\$410,956	467,478	\$508,045	468,506	\$440,370	145,033	\$133,127
Crab, Dungeness	2,563,941	\$3,820,434	889,045	\$1,494,915	1,016,600	\$2,098,680	911,827	\$1,863,600	661,616	\$1,199,850	394,726	\$678,902	2,122,090	\$3,237,380
Shrimp, Bay	132,951	\$409,280	122,599	\$373,856	151,057	\$489,379	140,555	\$482,137	112,484	\$402,835	71,700	\$307,868	95,163	\$421,187
Urchin, Sea	5,179,818	\$1,715,666	4,896,862	\$2,065,673	5,563,450	\$2,971,000	5,723,970	\$3,977,070	3,918,790	\$2,962,530	1,773,140	\$1,462,140	1,460,780	\$1,334,570
Abalone, Red	117,937	\$449,011	128,100	\$536,470	104,984	\$498,943	76,393	\$380,596	120,019	\$668,466	79,732	\$556,278	68,134	\$585,552
Squid, Market	659,549	\$67,951	7,485	\$1,362	283,960	\$30,669	3,243,940	\$346,348	5,396,700	\$468,563	2,243,940	\$374,893	4,928,500	\$640,241
SF BAY AREA TOTAL	51,495,097	\$39,569,615	49,323,889	\$23,791,917	48,433,000	\$29,286,100	49,765,600	\$31,105,800	44,821,300	\$28,795,000	30,351,000	\$16,264,200	28,292,500	\$19,412,500

The major ports for commercial fish landings in the SF Bay Area are: San Francisco, Bodega Bay, Princeton, Oakland, and Sausalito.

SAN FRANCISCO COMMERCIAL FISH LANDINGS
Dept. of Fish & Game Statistics for Select Species (Table 17)

11-30-95 commfish

Species	1988		1989		1990		1991		1992		1993		1994	
	Pounds	\$ Value	Pounds	\$ Value	Pounds	\$ Value	Pounds	\$ Value	Pounds	\$ Value	Pounds	\$ Value	Pounds	\$ Value
Anchovy, Northern	1,082,430	\$121,587	1,631,260	\$160,288	1,410,970	\$141,735	1,012,330	\$108,090	362,430	\$34,406	537,736	\$108,972	277,966	\$66,121
Halibut, California	112,845	\$257,575	143,778	\$324,461	148,882	\$364,692	193,584	\$461,956	217,744	\$520,789	215,466	\$524,705	177,719	\$444,420
Herring, Pacific	12,322,200	\$3,203,750	12,836,200	\$2,960,990	14,164,300	\$5,970,420	12,712,800	\$6,904,990	10,535,500	\$7,436,200	5,653,710	\$1,412,620	3,215,630	\$1,620,700
Herring, Roe on Kelp	-	-	87,584	\$175,167	185,750	\$1,525,370	115,399	\$968,623	83,698	\$437,681	-	-	55,004	\$109,376
Lingcod	261,635	\$99,828	272,941	\$112,004	370,384	\$139,190	373,039	\$140,373	172,167	\$68,046	186,984	\$81,703	167,680	\$71,523
Rockfish, Bocaccio	425,466	\$166,872	329,177	\$114,674	837,369	\$260,555	500,301	\$161,642	345,582	\$116,437	205,006	\$67,254	126,544	\$49,118
Rockfish, Chilipepper	-	-	-	-	-	-	1,148,150	\$373,507	1,313,940	\$434,725	572,088	\$186,501	463,269	\$180,132
Rockfish, Unspecified	1,133,410	\$376,881	905,786	\$299,288	2,054,740	\$679,591	915,965	\$356,129	576,412	\$244,743	324,147	\$183,952	161,405	\$67,062
Rockfish, Widow	261,551	\$87,568	137,048	\$38,561	703,939	\$212,785	571,013	\$174,558	457,824	\$145,207	104,809	\$30,836	75,532	\$27,183
Sablefish	1,256,620	\$561,942	1,274,680	\$500,096	684,669	\$282,641	527,130	\$280,864	440,585	\$205,702	412,819	\$166,783	328,055	\$249,304
Salmon, Chinook	617,190	\$1,812,880	224,845	\$600,651	247,576	\$744,856	197,050	\$552,336	134,604	\$401,187	75,931	\$183,805	129,205	\$287,187
Sanddab	155,667	\$53,734	118,681	\$37,433	67,349	\$20,490	104,669	\$33,107	103,748	\$33,605	73,724	\$44,278	95,816	\$32,895
Sole, Dover	1,237,580	\$385,864	1,388,700	\$382,242	372,105	\$96,231	861,093	\$253,750	1,101,500	\$321,387	610,354	\$162,859	261,427	\$63,006
Sole, English	304,808	\$126,023	254,202	\$104,767	204,991	\$71,445	215,624	\$80,496	187,271	\$69,837	171,146	\$63,762	157,909	\$61,020
Sole, Petrale	292,471	\$204,120	198,216	\$149,278	147,632	\$115,633	187,477	\$149,261	165,349	\$124,626	157,330	\$119,104	139,874	\$115,354
Swordfish	1,941	\$10,253	155,777	\$540,048	71,376	\$256,043	94,299	\$392,853	17,983	\$62,373	48,038	\$162,195	41,433	\$150,460
Thornyhead	214,935	\$76,033	435,172	\$161,966	222,632	\$85,181	274,806	\$119,071	416,529	\$186,389	378,457	\$171,402	185,433	\$114,062
Crab, Dungeness	527,782	\$819,407	161,330	\$279,145	250,826	\$530,733	178,818	\$369,638	98,200	\$171,566	94,827	\$148,900	609,107	\$928,880
S F TOTAL	21,843,900	\$9,251,350	21,605,400	\$7,517,440	23,255,700	\$12,111,200	21,284,400	\$12,479,500	17,789,200	\$11,498,300	10,501,700	\$4,245,700	7,421,550	\$5,140,300

APPENDIX C.
AIR QUALITY STANDARDS AND DATA

APPENDIX C. AIR QUALITY STANDARDS AND DATA

TABLE AQ-1. STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

<u>Pollutant</u>	<u>Averaging Time</u>	<u>SAAQS /a/</u>	<u>NAAQS /b/</u>
Ozone	1 hour	0.09 ppm /c/	0.12 ppm
Carbon Monoxide	1 hour	20 ppm	35 ppm
	8 hour	9.0 ppm	9 ppm
Nitrogen Dioxide	1 hour	0.25 ppm	NA
	Annual	NA	0.053 ppm
Sulfur Dioxide	1 hour	0.25 ppm	NA
	3 hour	NA	0.5 ppm
	24 hour	0.04 ppm	0.14 ppm
	Annual	NA	0.03 ppm
Respirable Particulate Matter	24 hour	50 ug/m ³ /c/	150 ug/m ³
	Annual	30 ug/m ³	50 ug/m ³
Sulfates	24 hour	25 ug/m ³	NA
Lead	30 day	1.5 ug/m ³	NA
	Calendar Quarter	NA	1.5 ug/m ³
Hydrogen Sulfide	1 hour	0.03 ppm	NA
Vinyl Chloride	24 hour	0.010 ppm	NA

/a/ SAAQS stands for State Ambient Air Quality Standards (California). SAAQS for ozone, carbon monoxide, sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, and respirable particulate matter are values that are not to be exceeded. All other California standards shown are values not to be equaled or exceeded.

/b/ NAAQS stands for National Ambient Air Quality Standards. NAAQS, other than ozone and those based on annual averages, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

/c/ ppm = parts per million by volume; ug/m³ = micrograms per cubic meter; NA = Not Applicable

Source: California Air Resources Board, *California Air Quality Data Summary*, 1992.

TABLE AQ-2 SAN FRANCISCO AMBIENT AIR QUALITY MONITORING SUMMARY, 1988 - 1993

		Number of Days Standards were Exceeded and Maximum Concentration Measured					
Pollutant	Standard	1988	1989	1990	1991	1992	1993
Ozone							
1-Hour	> 0.09 ppm	0	0	0	0	0	0
1-Hour	> 0.12 ppm	0	0	0	0	0	0
Max. 1-Hour Conc. (ppm)		0.09	0.08	0.06	0.05	0.08	0.08
Carbon Monoxide (Arkansas station)							
1-Hour	> 20. ppm	0	0	0	0	0	0
8-Hour	> 9. ppm	0	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	9	9	9	8	9	8	7
Max. 8-Hour Conc. (ppm)	6.5	7.5	7.0	5.6	6.5	6.4	5.1
Carbon Monoxide (Ellis station)							
1-Hour	> 20. ppm	0	0	0	0	0	0
8-Hour	> 9. ppm	1	1	0	0	0	0
Max. 1-Hour Conc. (ppm)	17	15	14	12	14	10	10
Max. 8-Hour Conc. (ppm)	10.0	12.8	9.0	6.9	8.4	7.4	6.9
Nitrogen Dioxide							
1-Hour	> 0.25 ppm	0	0	0	0	0	0
Max. 1-Hour Conc.(ppm)		0.12	0.14	0.11	0.10	0.09	0.08
Inhalable Particulates (PM₁₀)							
24-Hour	> 50 ug/m ³	7/59 ^a	13/62	12/61	15/60	9/61	5/61
24-Hour	> 150 ug/m ³	0/59	0/62	1/61	0/60	0/61	0/61
Max. Daily Conc. (ug/m ³)		117	101	165	109	81	69
Particulate Sulfate							
24-Hour	> 25 ug/m ³	0/61 ^a	0/61	0/61	0/60	0/61	0/56
Max. 24-Hr. Conc. (ug/m ³)		8.6	13.3	8.9	7.9	18.2	12.4

^a x/y indicates that standards were exceeded on x days out of a total of y days on which measurements were taken that year.

conc. = concentration; ppm = parts per million; ug/m³ = micrograms per cubic meter

SOURCE: California Air Resources Board, Summary of Air Quality Data, 1988-1993 BAAQMD Monitoring Stations, 10 Arkansas Street and 939 Ellis Street.

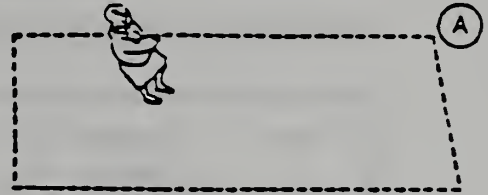
APPENDIX D.
TRANSPORTATION LEVEL OF SERVICE INFORMATION

TRANSPORTATION LEVEL OF SERVICE INFORMATION

LEVEL OF SERVICE A

Pedestrian Space: ≥ 130 sq ft/ped Flow Rate: ≤ 2 ped/min/ft

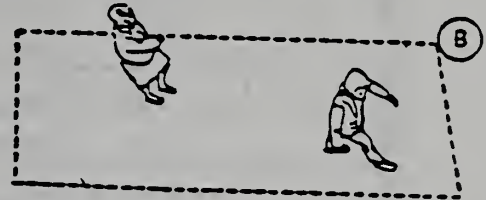
At walkway LOS A, pedestrians basically move in desired paths without altering their movements in response to other pedestrians. Walking speeds are freely selected, and conflicts between pedestrians are unlikely.



LEVEL OF SERVICE B

Pedestrian Space: ≥ 40 sq ft/ped Flow Rate: ≤ 7 ped/min/ft

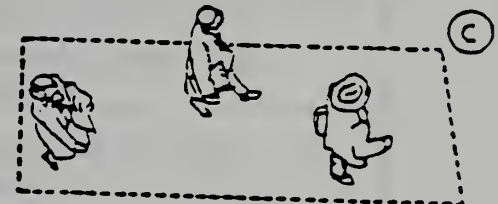
At LOS B, sufficient area is provided to allow pedestrians to freely select walking speeds, to bypass other pedestrians, and to avoid crossing conflicts with others. At this level, pedestrians begin to be aware of other pedestrians, and to respond to their presence in the selection of walking path.



LEVEL OF SERVICE C

Pedestrian Space: ≥ 24 sq ft/ped Flow Rate: ≤ 10 ped/min/ft

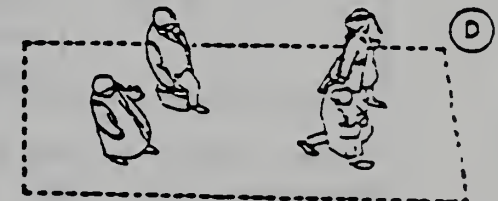
At LOS C, sufficient space is available to select normal walking speeds, and to bypass other pedestrians in primarily unidirectional streams. Where reverse-direction or crossing movements exist, minor conflicts will occur, and speeds and volume will be somewhat lower.



LEVEL OF SERVICE D

Pedestrian Space: ≥ 15 sq ft/ped Flow Rate: ≤ 15 ped/min/ft

At LOS D, freedom to select individual walking speed and to bypass other pedestrians is restricted. Where crossing or reverse-flow movements exist, the probability of conflict is high, and its avoidance requires frequent changes in speed and position. The LOS provides reasonably fluid flow; however, considerable friction and interaction between pedestrians is likely to occur.



LEVEL OF SERVICE E

Pedestrian Space: ≥ 6 sq ft/ped Flow Rate: ≤ 25 ped/min/ft

At LOS E, virtually all pedestrians would have their normal walking speed restricted, requiring frequent adjustment of gait. At the lower range of this LOS, forward movement is possible only by "shuffling." Insufficient space is provided for passing of slower pedestrians. Cross- or reverse-flow movements are possible only with extreme difficulties. Design volumes approach the limit of walkway capacity, with resulting stoppages and interruptions to flow.



LEVEL OF SERVICE F

Pedestrian Space: ≤ 6 sq ft/ped Flow Rate: variable

At LOS F, all walking speeds are severely restricted, and forward progress is made only by "shuffling." There is frequent, unavoidable contact with other pedestrians. Cross- and reverse-flow movements are virtually impossible. Flow is sporadic and unstable. Space is more characteristic of queued pedestrians than of moving pedestrian streams.

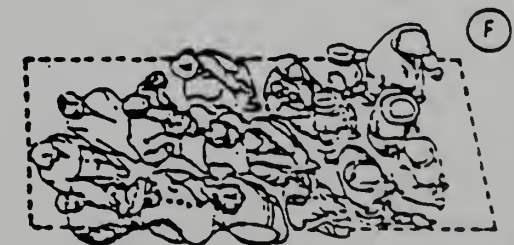


Figure 13-8. Illustration of walkway levels of service.

Source: Highway Capacity Manual, Special Report 209, Chapter 13, TRB, 1985

SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS BASED ON DELAY

Level of Service	Typical Delay (sec/veh)	Typical Traffic Condition
A	≤ 5.0	Insignificant Delays: No approach phase is fully utilized and no vehicle waits longer than one red indication.
B	5.1 - 15.0	Minimal Delays: an occasional approach phase is fully utilized. Drivers begin to feel restricted.
C	15.1 - 25.0	Acceptable Delays: Major approach phase may become fully utilized. Most drivers feel somewhat restricted.
D	25.1 - 40.0	Tolerable Delays: Drivers may wait through more than one red indication. Queues may develop but dissipate rapidly, without excessive delays.
E	40.1 - 60.0	Significant Delays: Volumes approaching capacity. Vehicles may wait through several signal cycles and long queues of vehicles form upstream.
F	> 60.0	Excessive Delays: Represents conditions at capacity, with extremely long delays. Queues may block upstream intersections.

Sources: *Highway Capacity Manual*, Highway Research Board, Special Report No. 87, Washington, D.C., 1985; *Interim Materials on Highway Capacity*, Circular 212, Transportation Research Board, 1980.

ALL-WAY STOP CONTROLLED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Typical Delay (seconds/vehicle)
A	≤ 5.0
B	5.1 - 10.0
D	10.1 - 20.0
D	20.1 - 30.0
E	30.1 - 45.0
F	≥ 45.0

Sources: Transportation Research Board, Circular 373; Dowling Associates.

APPENDIX E.
HAZARDOUS WASTE BACKGROUND REPORT

APPENDIX E – Hazardous Waste Background Report

SITE HISTORY

The waterfront in the vicinity of the proposed project area was first occupied during the Gold Rush of 1848 to 1860. At this time most of the project area was under water and was subsequently filled with heterogeneous fill. What is known about the fill materials is described below, however the exact quality and nature of the fill are unknown. It may have contained materials such as brick, bottles, wood, unspecified refuse, and debris from the 1906 earthquake and fire mixed with sand. The presence of such materials may be associated with elevated levels of organic and inorganic chemicals.

Hazardous materials may also be present in the soil or groundwater as a results of previous or current land uses. These land uses in the vicinity of the proposed alignment are summarized in Table E-1. Referenced site addresses are shown on Figure 16 (see ENVIRONMENTAL SETTING, Hazards, page 105).

HAZARDOUS SUBSTANCES REGULATORY FRAMEWORK

Hazardous materials and hazardous wastes are extensively regulated by various federal, state, regional, and local regulations, with the major objective of protecting public health and the environment. The major regulations are presented below. This appendix also presents a summary of the agency lists that were reviewed to identify sites that are permitted to generate hazardous wastes or store hazardous materials in underground storage tanks as well as sites where soil or groundwater quality may have been degraded by hazardous substances. The date of each agency list reviewed is identified in Table E-2.

Table E-1
Summary of Historical and Current Land Uses in Vicinity of Harbor Service Facilities

Address	Name	Business/Use	Approximate Date	Source
600 to 680 Beach Street	Selby Smelting and Leadworks	Smelter	1864-1885	2
	Equitable Gaslight Company	Manufactured Gas Plant	1898-1906	1,2
	California Fruit Cannery Association	Cannery	1907-1947	1,2
	Haslett Warehouse Company	Warehouse	1948-1973	1
	Warehouse Service Company	Warehouse	1950-1973	1
	The Cannery	Arcades, Bazaars	1974-1995	1
	Vacant and Office Space	Office	1974-1994	1
Jefferson Street	Railroad	Railroad	1914-?	2
Hyde Street Pier	General Petroleum Corporation	Gas Station	1948-1962	1,3
	Mobil Oil	Gas Station	1963-1995	1,3,4
	Standard Oil Company	Marine Gas Station	1948-1970	3
	Gateway Shipwright	Not Stated	1953-1961	3
	Cattolica & Lindwall	Fish Dealer	1954-1959	3
	Harbor Fisheries	Potential Fish Handling	1955-1970	3
	Refco Engineering Company	Refrigeration	1955-1957	3
	Marine Engine Filters	Potential Oil Usage	1955-1957	3
	US Coast Guard	Rescue Station	1955-1960	3
	US Public Health Service	Quarantine Station	1955-1961	3
	San Francisco State Historical Park	Park	1964-1970	3
	Western Cal Fish, Inc.	Netroom	1964	3
	San Francisco State Historical Monument	Not Stated	1963-1976	3
	Golden Gate National Recreation Area	Historic Ships Unit	1977-1981	3
2905 Hyde Street	Vacant	None	1982-1987	3
	The Maritime Store	Not Stated	1988-1990	3
	Maritime Programs	Not Stated	1991-1995	3
2936 Hyde Street	Oswald Machine Works	Diesel Engine Repair	1948-1971	1,3

See last page of table for notes

Table E-1
Summary of Historical and Current Land Uses in Vicinity of Harbor Service Facilities

Address	Name	Business/Use	Approximate Date	Source
2937 Hyde Street	Alioto Seafoods/Harbor Fisheries	Fish Handling	1980-1994	3
	Consolidated Factors Sea Products	Fish Handling	1995	3
	Stein, Ross S.	Not Stated	1983	3
	Vacant	None	1984-1995	3
2941 Hyde Street	Oswald Machine Works	Engine Repair	1974-1994	1,5
440 Jefferson Street	Alioto Fish Company	Fish Handling	1957-1995	3
	Monterey Fish Market	Fish Handling	1985-1986	3
	Marly Fish Company	Fish Handling	1987-1995	3
	Alioto Lazio Fish Company	Fish Handling	1995	3
440 Jefferson Street	General Petroleum Corporation/Mobil Oil Corporation	Diesel and Gasoline Storage	1935-1994	1,6
490 Jefferson Street	Bell Smoked Fish	Fish Smoking	1948-1983	1,3
	Ocean Deli Gourmet Foods	Not Stated	1982	3
	Larocca A. Seafood	Potential Fish Handling	1983	3
	Data Card Corp Troy	Not Stated	1984	3
	The Greek Fisherman	Potential Fish Handling	1984	3
	Tarantino SP Brokerage/Insurance	Not Stated	1984-1995	3
	Aqua Products	Not Stated	1987	3
	San Francisco Smoked Fish	Potential Fish Smoking	1987	3
	Capital Strategies	Not Stated	1990-1995	3
	Adams E. Insurance and Financial Services	Not Stated	1991	3
	Bohne, Dan & Son	Not Stated	1991-1995	3
	Denticare	Not Stated	1991	3
	Martel Insurance Service	Not Stated	1991-1995	3
	Keogler Morgan & Co.	Not Stated	1993-1995	3
	Conley, Balzer & Steward	Advertising Agency	1954-1972	3
	Conley, Knollin & Strain	Advertising Agency	1974-1975	3

See last page of table for notes

Table E-1
Summary of Historical and Current Land Uses in Vicinity of Harbor Service Facilities

Address	Name	Business/Use	Approximate Date	Source
	Vacant	None	1976-1980	3
	Alexis Tellis LTD	Not Stated	1982-1988	3
	AJT Consultant	Not Stated	1985	3
	Interocean Seafoods	Potential Fish Handling	1985-1987	3
	Levy, Albert D.	Not Stated	1985-1987	3
	Taormina, Anthony	Not Stated	1985	3
	France Foods	Not Stated	1986-1989	3
	Bohne, Dan & Son	Not Stated	1988-1989	3
	Martel Insurance Services	Not Stated	1988-1989	3
	Vacant	None	1990-1995	3
496 Jefferson Street	Hendry, C.J. Company/ Johnson & Joseph Company	Ship Chandlers	1953-1983	3
	Maskell Marine Service	Ship Chandlers	1984-1995	3
498 Jefferson Street	Old Sausalito Restaurant	Restaurant	1953-1974	3
	Curiosity Shop	Gift Shop	1972-1995	3
	Franceschis	Restaurant	1975-1995	3
500 Jefferson Street	Unknown	Printers Storage	1948-1950	1

Sources:

1. Sanborn Maps
2. A Cultural Resources Overview of the Fisherman's Wharf Seafood Center Project Area and Environs, Archaeological/Historical Consultants, March, 1989
3. San Francisco city directories including the Polk Directories and the Haines Criss Cross Directories
4. Site Visit, Mary McDonald, Orion Environmental Associates, June 7, 1995
5. Port of San Francisco Map
6. Site Investigation/Characterization Report, Alton Geoscience, Inc., September 20, 1990

Prepared by Orion Environmental Associates, 1995

Table E-2. Summary of Hazardous Materials Databases Reviewed

Name of List	Responsible Agency	Accronym	Date of List	Number of Sites Identified
National Priority List	USEPA	NPL	Aug. 1994	0
Potentially Contaminated Sites	USEPA	CERCLIS	Aug. 1994	2
Toxic Chemical Release Inventory	USEPA	SARA	Aug. 1992	0
Federal Superfund Liens	USEPA	LIENS	Nov. 1992	0
USEPA Hazardous Waste Generators	USEPA	RCRA	June 1994	44
Abandoned Sites Program	DTSC	CAL-SITES	Aug. 1994	5
California Bond Expenditure Plan	DTSC	RCRA	Jan. 1990	44
Hazardous Waste and Substances Site List	CA Office of Planning and Research	CORTESE	Nov. 1990	8
Leaking Underground Storage Tanks	Regional Water Quality Control Board	LUST	Jul. 1994	9
Waste Management Unit Discharge Systems	Regional Water Quality Control Board	WMUDS	Sept. 1994	0
Solid Waste Information System	CA Integrated Waste Management Board	SWIS	Mar. 1993	0
Waste Discharge System	CA Environmental Affairs Agency	WDS	Aug. 1994	0
Emergency Response Notification System	US Coast Guard, US Navy	ERNS	June 1993	0
Underground Storage Tanks	State Water Resources Control Board	UST	Aug. 1994	11

Federal Regulations and Agency Lists Reviewed

The U.S. Environmental Protection Agency (U.S. EPA) is the lead agency responsible for enforcing federal regulations that affect public health or the environment. The primary federal laws and regulations include: the Resource Conservation and Recovery Act of 1976 (RCRA); the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA); and the Superfund Act and Reauthorization Act of 1986 (SARA). Federal statutes pertaining to hazardous materials and wastes are contained in the Code of Federal Regulations (40 CFR).

These laws require that responsible parties report any known hazardous waste contamination of soil or groundwater as defined in 40 CFR to the U.S. EPA. State and local agencies must also be informed. Any contamination that threatens the public health or environment must be remediated by the responsible party according to standards set by the U.S. EPA. RCRA also contains regulations for the safe storage, transportation and disposal of hazardous wastes.

The federally published lists of sites which trace the status of suspected hazardous materials sites or identify sites permitted to generate hazardous wastes include:

- the National Priority List (NPL), which prioritizes sites with significant risk to human health and the environment;
- the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), which tracks contaminated properties identified under CERCLA and SARA;
- the toxic chemical release inventory which identifies sites which have reported chemical release to the air, water, or land as required by Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA);
- the Federal Superfund Liens list (LIENS) which identifies properties where the U.S. EPA has placed a lien because the U.S. EPA has spent money for remedial action or notified

the potential of liability for remedial action. This list is compiled by the Office of Enforcement and Compliance Monitoring of the U.S. EPA; and

- the Emergency Response Notification System (ERNS) which lists releases of oil and hazardous substances reported pursuant to section 103 of CERCLA; section 311 of the Clean Water Act; and sections 300.51 and 300.65 of the National Oil and Hazardous Substances Contingency Plan.
- the list of facilities permitted to generate hazardous wastes under RCRA.

State and Regional Regulations and Agency Lists Reviewed

The USEPA has delegated much of its regulatory authority to the individual states. The Department of Toxic Substance Control (DTSC) of the California Environmental Protection Agency (Cal EPA), formerly a division of the Department of Health Services, enforces hazardous materials and waste regulations in California, in conjunction with the USEPA. The DTSC is responsible for regulating the management of hazardous substances including the remediation of sites contaminated by hazardous substances. California hazardous materials laws incorporated federal standards, but are often more strict than federal laws. The primary state laws include: the California Hazardous Waste Control Law (HWCL), the state equivalent of RCRA; and the California Hazardous Substance Account Act, the state equivalent of CERCLA. State hazardous materials and waste laws are contained in the California Code of Regulations, Titles 22 and 26.

The published lists of sites which trace identification and remediation progress within the state include:

- CALSITES, which was previously referred to as the Abandoned Sites Program Information System (ASPIS), and identifies potential hazardous waste sites, which are then screened by the DTSC. Sites on this list which are designated for no further action by the DTSC were not identified by the database review;

- the Annual Work Plan, formerly known as the Bond Expenditure Plan (BEP), which is a site-specific expenditure plan for the appropriation of California Hazardous Substance Cleanup Bond Act of 1984 funds; this list is no longer updated.
- the CORTESE List, which is a compilation of information from various sources listing potential and confirmed hazardous waste of hazardous substance sites, previously maintained by the State Office of Planning and Research. This list is no longer updated.

The Regional Water Quality Control Board (RWQCB) is authorized by the State Water Resources Control Board to enforce provisions of the Porter - Cologne Water Quality Control Act of 1969. This act gives the RWQCB authority to require groundwater investigations when the quality of groundwater or surface waters of the state are threatened and to require remediation of the site, if necessary. Both of the RWQCB and the DTSC are part of the Cal EPA.

The RWQCB maintains the following lists identifying hazardous waste sites that were reviewed:

- the Leaking Underground Storage Tanks (LUST) list, which is required by the Health and Safety Code and tracks remediation status of known leaking underground tanks;
- the Waste Management Unit Discharge System (WMUDS) list of sites which tracks waste management units. The list contains sites identified on the Toxic Pits List, which is required by the Toxic Pits Cleanup Act (Katz Bill), and places relatively strict limitations on the discharge of hazardous wastes into surface impoundments, toxic ponds, pits and lagoons (the RWQCB is required to inspect all surface impoundments annually). The WMUDS list also identifies sites targeted by the Solid Waste Assessment Program where there is a possible risk of solid waste disposal sites (landfills) discharging hazardous wastes, threatening either water or air quality.

The RWQCB also maintains other lists of sites that were not reviewed as part of this EIR. These lists include:

- the Non-Tank or Unauthorized Toxic Releases List, which traces the status of other hazardous releases to the environment;
- the Toxic Pits List, which is required by the Toxic Pits Cleanup Act (Katz Bill), and places relatively strict limitations on the discharge of hazardous wastes into surface impoundments, toxic ponds, pits and lagoons (the RWQCB is required to inspect all surface impoundments annually); and
- the Solid Waste Assessment Program targets sites and maintains a list of where there is a possible risk of solid waste disposal sites (landfills) discharging hazardous wastes, threatening either water or air quality.

The Bay Area Air Quality Management District (BAAQMD) may impose specific requirements on remediation activities to protect ambient air quality from dust or other airborne contaminants.

The California Waste Management Board maintains a list of active, inactive or closed solid waste disposal sites and transfer facilities, as legislated under the Solid Waste Management and Resource Recovery Act of 1972. The list is referred to as the Solid Waste Information System (SWIS).

The California Environmental Affairs Agency Office of Hazardous Material Data Management produces a database containing information on sites which have been issued waste discharge requirements (NPDES permits). These sites are allowed to discharge specified levels of chemicals under their waste discharge requirements. This list is referred to as the Waste Discharge Systems (WDS).

The State Water Resources Control Board (SWRCB) also requires permitting of all underground storage tanks (USTs) containing hazardous substances. The California laws regulating USTs are primarily found in the Health and Safety Code; combined with regulations adopted by the State Water Board, these laws comprise the requirements of the state UST program. The laws contain requirements for UST permitting, construction, installation, leak detection monitoring,

repairs and corrective actions and closures. In accordance with state laws, counties are required to implement a UST program and in some cases, the county requirements are more stringent than those of the State. Cities are also given the option to implement a UST program. The Regional Water Quality Control Board may also oversee corrective actions.

Local Regulations

Several agencies within the City are involved in the use and storage of hazardous materials and the disposal of hazardous wastes. The San Francisco Department of Public Health, Bureau of Environmental Health and Hazardous Materials (DPH), is the primary local environmental regulatory agency responsible for enforcement of City, state and federal environmental health codes and regulations. DPH maintains records of underground storage tank modifications and releases of hazardous chemicals from storage tanks, and records where toxic chemicals are used, manufactured and/or stored by San Francisco businesses.

DPH has the authority over monitoring the storage of flammable liquids, which includes underground tanks, and other hazardous materials. The DPH also has a memorandum of understanding with the RWQCB that gives the City local oversight authority over hazardous waste remediation activities.

The DPH maintains the Local Oversight Facilities list which includes underground storage tank sites under the jurisdiction of the Local Oversight Program of the DPH. No additional sites were identified on this list that were not identified on the LUST list.

The San Francisco Fire Department (SFFD), Bureau of Fire Prevention and Investigation, conducts inspections of underground storage tank installations and has permit authority over the storage of flammable liquids. The SFFD also maintains documentation of known above-ground storage tanks.

The Department of Public Works administers the San Francisco Public Works Code, Article 20, "Analyzing the Soil for Hazardous Waste," known as the Maher Ordinance. This ordinance,

enacted in 1986, requires an investigation of hazardous wastes in these soil as a prerequisite for building permits when "the permit for a construction project ... involves the disturbance of at least 50 cubic yards of soil...". In addition, Section 1013 of the Maher Ordinance, construction on City Property, applies the same requirements to improvements on land under the City's jurisdiction, when no building permit is required.

HAZARDOUS MATERIALS WORKER SAFETY REQUIREMENTS

The Federal Occupational Safety and Health Administration (Fed/OSHA) and the California Safety and Health Administration (Cal/OSHA) are the agencies responsible for assuring worker safety in the handling and use of chemicals in the workplace. The federal regulations pertaining to worker safety are contained in the Code of Federal Regulations, Title 29 (29 CFR) as authorized in the Occupational Safety and Health Act of 1970. They provide standards for safe workplaces and work practices, including standards relating to hazardous materials handling. In California, Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations; Cal/OSHA standards are generally more stringent than federal regulations.

The state regulations concerning the use of hazardous materials in the workplace are included in Title 8 of the California Code of Regulations, which contain requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA also enforces hazard communication program regulations, which contain worker safety training and hazard information requirements, such as procedures for identifying and labeling hazardous substances, communicating hazard information relating to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees at hazardous waste sites.

ASBESTOS ABATEMENT REGULATIONS

Where demolition or renovation work will involve 100 square feet or more of asbestos-containing materials, the State law requires that the contractor be certified and that certain procedures be

followed.¹ Section 19827.5 of the California Health and Safety Code, adopted January 1, 1991, requires that local agencies not issue demolition permits until an applicant has demonstrated compliance notification requirements under applicable Federal regulations regarding hazardous air pollutants, including asbestos.

The BAAQMD is vested by the California legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement. They are to be notified ten days in advance of any proposed demolition. Notification includes the names, addresses and phone numbers of operations and persons responsible, including the contractor; description and location of the structure to be renovated/demolished including size, age and prior use, and the approximate amount of friable asbestos scheduled starting and completion dates of demolition nature of planned work and methods to be employed; procedures to be employed to meet BAAQMD requirements; and the name and location of the waste disposal site to be used.

According to the BAAQMD Regulation 11, Rule 2, if a structure is to be demolished, friable and potentially friable asbestos must be removed and disposed of properly. Workers and the public could become exposed to asbestos fibers as they become airborne during removal.²

The local office of Cal/OSHA must be notified of asbestos abatement to be carried out. Asbestos contractors must follow the State regulations contained in Title 8 of the California Code of Regulations, Sections 1529 and 341.6 through 341.14 where there is asbestos-related work involving 100 square feet or more of asbestos-containing materials. Asbestos removal contractors must be certified as such by the Contractors Licensing Board of the State of California. Pursuant to California law, the Bureau of Building Inspection (BBI) would not issue the required permit until the applicant has complied with the notice requirements above as well as requirements for proper waste disposal (described below).

¹ Assembly Bill 2040, Asbestos 1985, Added Section 24223 and Chapter 25 to Division 20 of the Health and Safety Code.

² Bay Area Air Quality Management District, Rules and Regulations, Regulation 11, Rule 2, Asbestos Demolition, Renovation and Manufacturing, adopted May 1981.

Office Bulletin No. 88-4 of the San Francisco Fire Department contains local requirements for asbestos abatement to protect against fire hazards. This bulletin requires the use of fire resistive or non-combustible materials for any temporary asbestos abatement structures constructed; limits abatement to a maximum of two floors within a building; requires that exits are maintained in accordance with the applicable requirements of the San Francisco Fire Code; requires maintenance of opening protection for rated shafts in accordance with Title 24 of the California Code of Regulations; requires posting of a notice of asbestos abatement adjacent to the main fire alarm panel; restricts impairment of life safety systems to those floors where asbestos abatement is in process; and requires fire extinguishers in the appropriate locations.

LEAD-BASED PAINT ABATEMENT REGULATIONS

In accordance with regulatory guidance, lead-based paint waste that has been separated from building materials (such as delaminated or chipping paint) must be evaluated separately from other building materials for waste disposal purposes during building demolition. Accordingly, any chipping or delaminated paint would need to be removed before any renovation or demolition activities. Depending on the level of lead identified in the paint, it may require disposal as a hazardous waste. Building materials which still have the paint adhered to them may generally be disposed of as regular construction debris, regardless of the lead level in the paint.

The Lead in Construction Standard contained in Title 29 of the Code of Federal Regulations, Section 1926.62 applies to the removal of chipping or delaminated lead-based paint. In accordance with this standard, it will be necessary for workers to wear respiratory protection until the work is completed or until an employee exposure assessment can demonstrate that air lead levels during scraping are below the permissible exposure limit (PEL). Other applicable requirements of the standard include worker awareness training, use of protective clothing, provisions for change areas and hand washing facilities, biological monitoring, and development of a site specific compliance program. California regulations relating to the abatement of lead-based paint are identical to the Federal regulations.

WASTE DISPOSAL REGULATIONS

All California landfills have been segregated by regulatory authority into the categories of Class I, Class II and Class III facilities. Class I facilities can accept hazardous wastes with chemical levels below the federal land disposal restriction (land ban) treatment standards. Class II and III facilities can accept non-hazardous wastes that meet acceptance criteria determined by the State for organic and inorganic compounds; each landfill has an individual acceptance criteria.

Waste disposal is regulated by the RWQCB and will be predicated on the concentrations of the chemical constituents that are present or the characteristics of the wastes being disposed of. Soil with total petroleum hydrocarbon or organic compound concentrations above the detection limit must be disposed of at an appropriately landfill facility or treated to reduce the levels of chemicals in the soil; the concentration of the compounds present will determine the appropriate type of disposal facility. In general, soil with total petroleum hydrocarbon levels up to 100 milligrams per kilogram can be disposed of at a Class III disposal facility. If the concentration is between 100 and 1,000 milligrams per kilogram and be disposed of at a Class II disposal facility and if the concentration is greater than 1,000 milligrams per kilogram, Class I disposal would be required.

The disposal alternative is also predicated on the total and soluble concentrations of metals. Soil with total metal concentrations that are above the Total Threshold Limit Concentration (TTLC) and soluble metal concentrations that are above the Soluble Threshold Limit Concentration (STLC) must be disposed of at a Class I disposal facility or treated.³ The Class II and III landfills in the Bay Area have acceptance criteria for lead that are lower than the STLC.

³ The total threshold limit concentration (TTLC) and the soluble threshold limit concentration (STLC) are criteria used for waste classification purposes. If the waste contains a total concentration of a constituent and a concentration greater than the TTLC, it is considered a hazardous waste. If the total concentration is greater than ten times the STLC, then it would be necessary to perform a waste extraction test to determine the soluble concentration. If the soluble concentration is greater than the STLC, the waste would be considered hazardous. The waste extraction test involves a ten times dilution of the sample; because of this, it would be impossible for the soluble concentration to exceed the STLC unless the total concentration exceeded ten times the STLC.

Soil with no concentrations of organic chemicals above detection limit and total and soluble metal concentrations that are below the TTLC and STLC may be used on-site or transported off-site as unrestricted waste.

Lead-based paint would be considered a hazardous waste because the total lead concentration would be greater than the TTLC of 1,000 milligrams per kilogram. It would be necessary to dispose of the paint at a Class I facility.

The California Department of Toxic Substances Control has classified friable, finely divided and powdered wastes containing greater than one percent asbestos as a hazardous waste.⁴ A friable waste is one which can be reduced to powder or dust under hand pressure when dry. Non-friable asbestos-containing wastes are not considered hazardous and are not subject to regulation under Title 22, Division 4.5 of the California Code of Regulations. The management of these wastes would still be subject to any requirements or restrictions which may be imposed by other regulatory agencies. The State standard for classification of asbestos wastes is contained in Section 66261.24 of Title 22 of the California Code of Regulations. Asbestos is not currently regulated as a hazardous waste under the RCRA; because of this it is considered a non-RCRA waste. Asbestos wastes totalling more than 50 pounds must be transported by a registered waste hauler to an approved treatment, storage or disposal facility.

Wastes containing asbestos may be disposed of at any landfill which has waste discharge requirements issued by the RWQCB which allow disposal of asbestos-containing materials, provided that the wastes are handled and disposed of in accordance with the Toxic Substances Control Act, the Clean Air Act's National emission Standards for Hazardous Air Pollutants, and Title 22 of the Code of California Regulations (Division 4.5). The Department of Toxic Substances Control also has treatment standards for asbestos-containing wastes which require submittal of a notification and certification form to the land disposal facility as well as wetting and containment of the asbestos-containing materials.

⁴ California Department of Toxic Substances Control, Fact Sheet, Asbestos Handling, Transport and Disposal, October 1993.

It will be necessary to conduct toxicity testing to determine whether any creosote coated piers are considered hazardous. Depending on the results of the testing, the piers may require disposal at a class I or II disposal site.

The owner of properties where hazardous waste are produced or abatement would occur must have a Hazardous Waste Generator Number assigned by and Registered with, the California Department of Toxic Substances Control in Sacramento. The contractor and hauler of the material are required to file a Hazardous Waste Manifest which details the hauling of the material from the site and the disposal of the material.

DREDGING AND SEDIMENT DISPOSAL REGULATIONS

Dredge disposal permits are obtained from the U.S. Army Corps of Engineers which has federal jurisdiction over fill, dredging, and dredged sediment disposal under sections 9 and 10 of the River and Harbors Act and Section 404 of the Clean Water Act. In accordance with the Clean Water Act, the U.S. Environmental Protection Agency reviews the permits and provides comments to the Corps of Engineers on environmental impacts of the proposed dredging and dredged spoils disposal on Bay water quality. The Bay Conservation and Development Commission also issues permits for dredging and disposal.

Under powers delegated by the U.S. Environmental Protection Agency and the State Water Resources Control Board, the Regional Water Resources Control Board certifies compliance of dredging with section 401 of the Federal Water Pollution Control Act of 1972. In March 1987 the Regional Water Quality Control Board adopted Interim Requirements for Dredging Project Monitoring in San Francisco Bay.

Prior to approval of any dredging permit, it would be necessary to conduct sediment testing and comply with the above regulations. The Regional Water Quality Control Board would review the results of the sediment testing to determine whether the dredging would have any impact on Bay water quality. Additional testing may be required until the Regional Water Quality Control Board was assured that dredging and disposal of the dredge spoils at an approved in-Bay

disposal site would not cause an environmental problem. If this determination could not be made, the Regional Water Quality Control Board would make the decision that it would be necessary to find an alternative disposal method for the dredge spoils or that dredging should not take place.

Alternatives to in-Bay disposal include ocean disposal, confined upland disposal, and wetlands creation and beneficial reuse. An approved ocean disposal site has not been established at this time. For confined upland disposal, the dredge spoils would have to meet the acceptance criteria for a Class I, II, or III landfill. Beneficial reuse options include landfill cover, levee restoration and other related uses. Most of the dredge spoils from the San Francisco Bay have been deposited in-Bay at the Alcatraz Disposal Site.

APPENDIX F.
EIR AUTHORS AND CONSULTANTS

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San Francisco Planning Department
Office of Environmental Review
1660 Mission Street, 5th Floor
San Francisco, CA 94102

Barbara Sahm, Environmental Review Officer
Sharon Rogers, Project Coordinator

PORT OF SAN FRANCISCO

Port of San Francisco
Ferry Building
San Francisco, CA 94111

Dan Hodapp, Project Coordinator
Sharon Polledri, Project Director

EIR CONSULTANT

The Duffey Company
101 The Embarcadero, Suite 214
San Francisco, CA 94105

Marilyn Duffey, Project Manager
Anne Henny, Land Use

EIR SUBCONSULTANTS

Orion Environmental Associates
World Trade Center, Room 250-R
San Francisco, CA 94111

Joyce Hsiao, Water Quality, Air Quality
Michele Bellows, Public Services and Public Utilities
Mary McDonald, Hazards
Evelyn Shellenberg, Report Production

Korve Engineering
155 Grand Avenue, Suite 400
Oakland, CA 94612

Luba Wyznyckyj, Traffic and Parking

SOMA Corporation
1260B 45 th Street
Emeryville, CA 94608

Norm Ozaki, Human Health Risk Assessment
Glenn Leong, Water Quality

Woodward-Clyde Consultants
500 12th Street, Suite 100
Oakland, CA 94607

Sally Maxwell, Peer Review
Bill Martin, Water Quality Sampling
Terrance Cooke, Water Quality

MEC Analytic Systems, Inc.
2433 Impala Drive
Carlsbad, CA 92008

David Robinson, Principal
David Cannon, Water Quality
Cindy Fuller, Marine Biology

Brunsing Associates
930 Shiloh Road #44
Windsor, CA 95492

William Mullenhoff, Water Quality Baseline Data

Archaeological/Historic Consultants
609 Aileen Street
Oakland, CA 94609

Lawrence Shoup, Cultural Resources

EJL Associates
926 "J" Street Suite 801
Sacramento, CA 95814

Eugenia Laychak, Fisheries Information

